JAN 7 1946

THE Refrigeration Industry

INSTALLATION
MAINTENANCE
MERCHANDISING

AIR CONDITIONING
MACHINERY

JANUARY, 1946

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Here Today—Back Tomorrow . . . The Flowers that Bloom
Water, Water Everywhere . . . Accent on Merchandising

Improved PACKLESS VALVES

"Simplicity" Packless Valves

...have round hand wheels for easy hand grip

...have flat steel springs for positive spring action

...have raised body seat that controls travel of stem

...have uniformly level connections for ease in installation

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Plants: Cleveland, Columbia City, Ind., Los Angeles, Canada—St. Thomas, Ontario

This Weatherhead product is an outstanding example of the engineering "know-how" with which we have endowed all our refrigeration parts. The "Simplicity" Packless Valve was designed-in-use to insure economical long life and trouble-free operation. This product is available in a wide variety of sizes, both flared and solder types.

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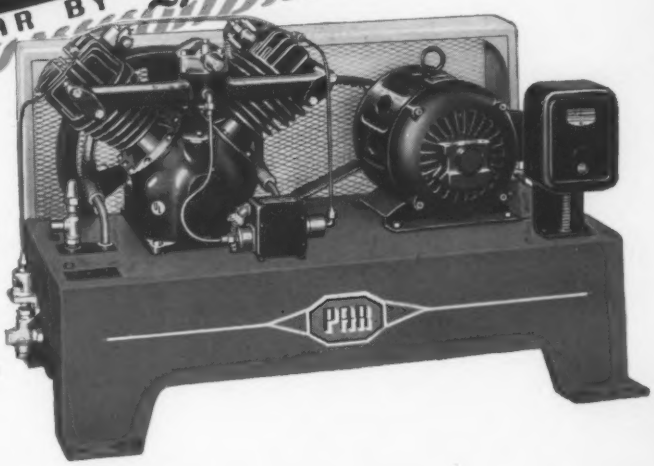

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PAR—Condensing Unit Line sold exclusively through Franchised Refrigeration Supply Jobbers!

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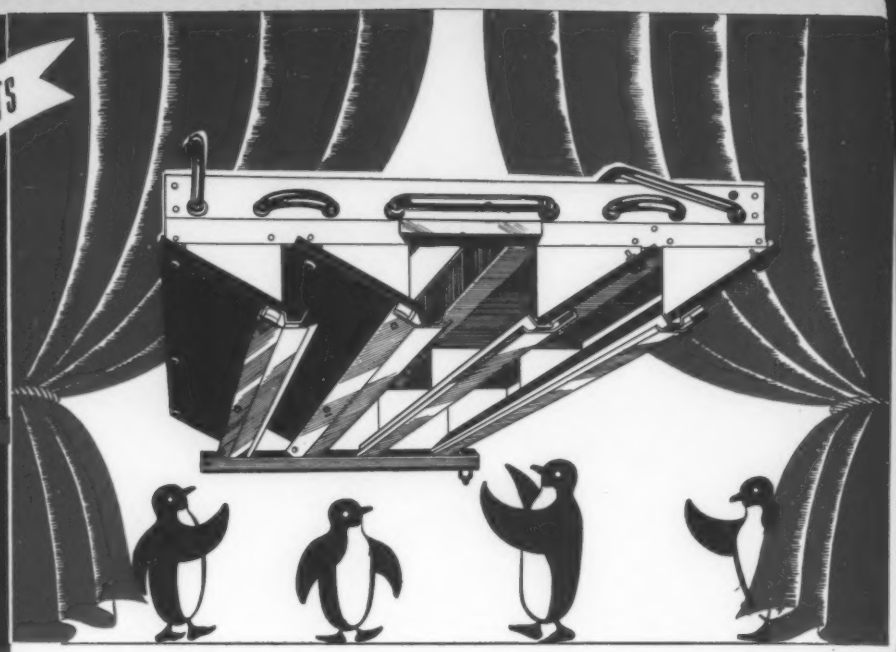

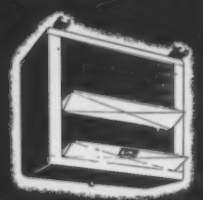

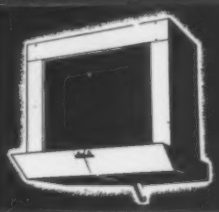

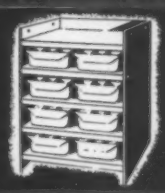

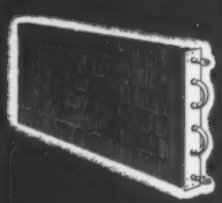

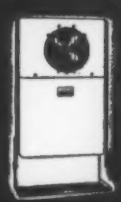

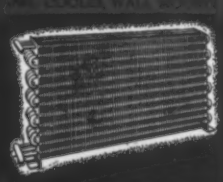

Bush Plasti–Cooler

The first application of plastics to the low side field! Combining the efficiency of the Bush finned coil with the proven advantages of sturdy plastics, the Bush Plasti-Cooler is the most advanced evaporator at any price. Maintains high humidity conditions in such applications as florist refrigerators and meat boxes.

Mounted from the ceiling, the Bush Plasti-Cooler serves to eliminate the accumulation of dormant air within a refrigerated box. Baffles of gleaming, jet-black plastics eliminate all sweating . . . enhance appearance. Scientifically calculated pitch of baffles insures maximum cold air discharge. Hangers supplied with all models.

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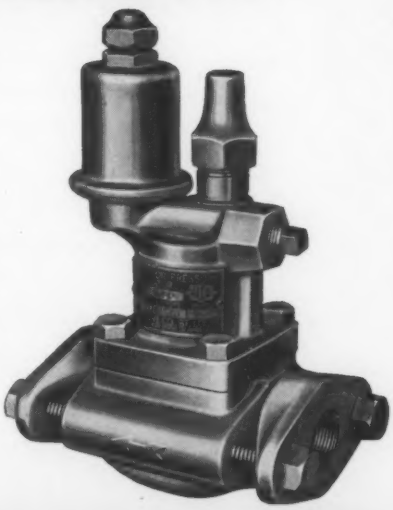

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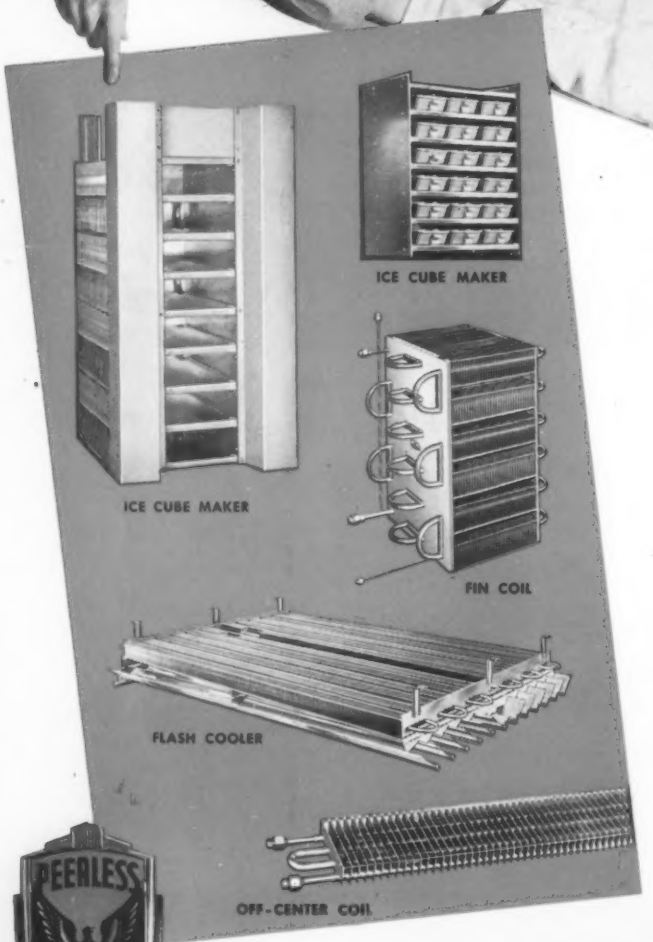

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CCA

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THE COVER . . . They look like quart-sized milk bottles—but they're really tubes of Fiberglas yarn ready to be woven into a fabric which can be used to wrap insulated pipes, or to insulate motors, generators, and similar electrical units. Lubricants applied to strands during fabrication make a "controlled atmosphere" necessary. (Photo from Carrier Corp.)

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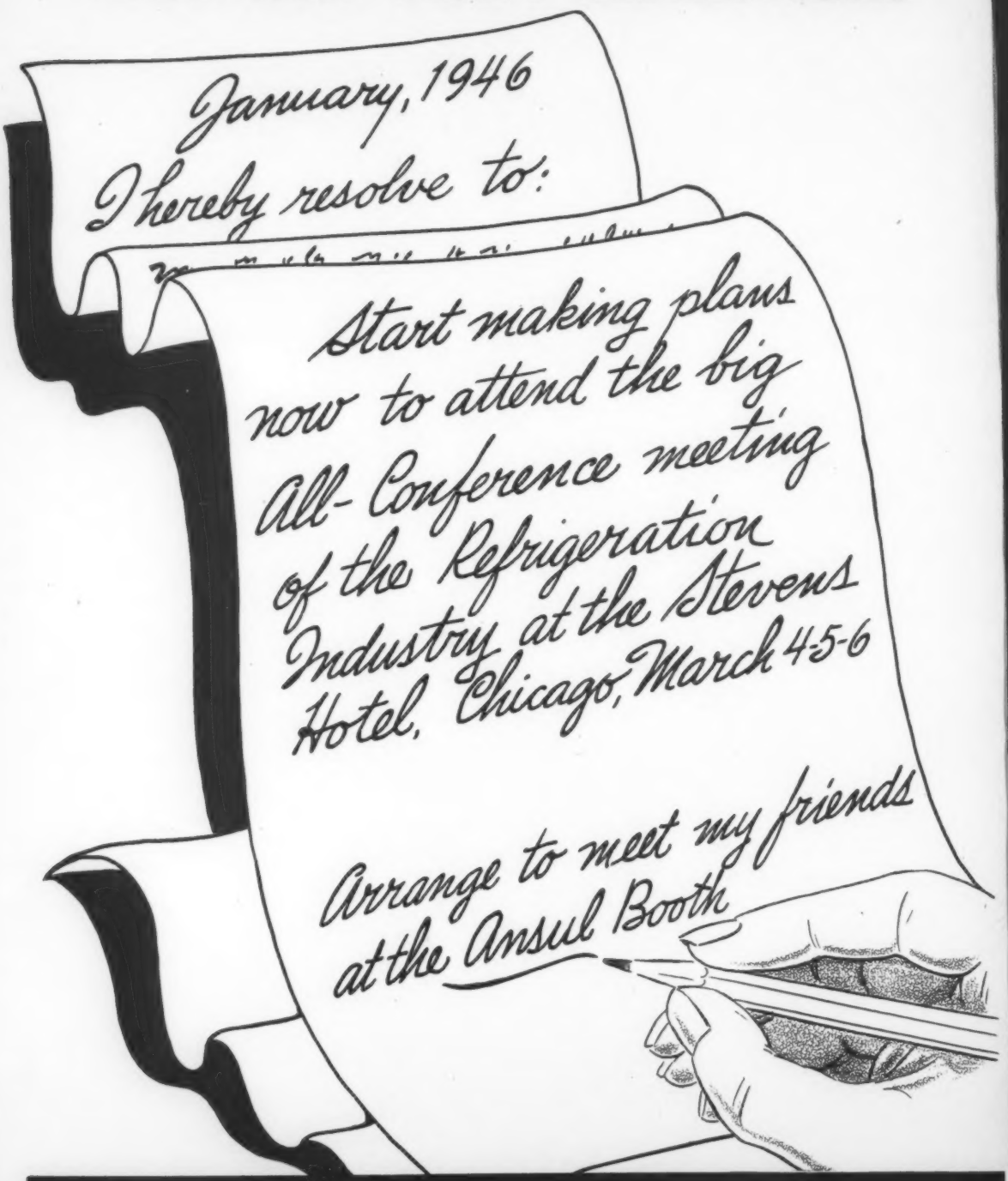
INCLUDE THIS **ANSUL** SUGGESTION IN YOUR NEW YEAR'S RESOLUTIONS


January, 1946
I hereby resolve to:
Start making plans now to attend the big All-Conference meeting of the Refrigeration Industry at the Stevens Hotel, Chicago, March 4-5-6
Arrange to meet my friends at the Ansul Booth

ANSUL CHEMICAL COMPANY, MARINETTE, WIS.

AGENTS FOR KENETIC'S "FREON-11," "FREON-12" AND "FREON-22"

Detroit "DURA-FRAM" Expansion Valves

MADE IN A COMPLETE RANGE OF CAPACITIES

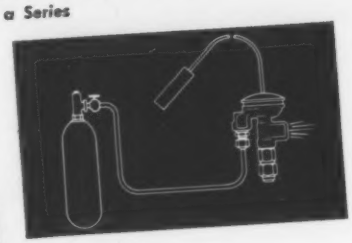
There is a Detroit "Dura-fram" Expansion Valve for any capacity from ½ ton to 20 tons Freon. Each does a better, smoother job—lasts longer—requires less attention. These valves are favorites of refrigeration men everywhere. Write for Catalog 200-A.

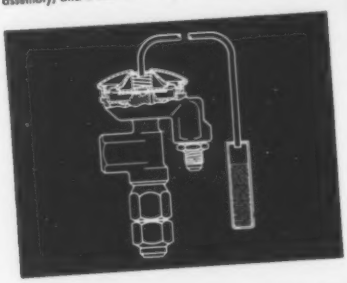
DRYING LIQUID CHARGED EXPANSION VALVES

No. 8 of a Series

Detailed here are the effective methods of drying "Detroit" Liquid Charged Expansion Valves No. 893L, 897L, 899L, 786L, 787L, and 788L.

When removing moisture from liquid charged valves extra precautions must be taken. A liquid charged valve has a large quantity of charging liquid in the power element. The feeler bulb will hold all the liquid in the power element assembly, and if the valve body is heated when the feeler





bulb is cool, the charge will condense in the feeler bulb, and no harm will be done.

But the power element (top of valve) cannot hold all the liquid in the power element and bulb assembly. When the power element is cold, liquid condenses in it, but some liquid remains in the feeler bulb. Therefore, if the feeler bulb of a liquid charged valve is over-heated, or if the entire assembly is heated at once, excessive pressure will be generated which will damage the valve diaphragm.

WARNING. Never heat a liquid charged thermostatic expansion valve unless the feeler bulb can be kept cool. Never subject the feeler bulb to temperatures in excess of 120° F. under any circumstances.

Safe methods of dehydrating these valves are as follows:

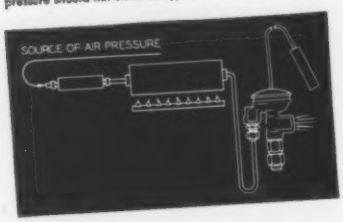
1. METHYL ALCOHOL AND REFRIGERANT

Hold valve with outlet pointing up and pour methyl alcohol into outlet connection until it runs out the inlet. Cap both connections with fingertips and shake well. Then drain alcohol from valve body. Repeat several times. Finally, connect valve to Freon or methyl chloride gas drum and blow out remaining alcohol.

2. HOT DRY AIR

This method may be used if the feeler bulb is kept at room temperature or lower. Required is a source of air under pressure, a dehydrating cartridge, and a tank for heating the air. Blow hot air through the valve for about 30 minutes, until the valve is thoroughly warm. Cap or install the valve immediately to prevent entry of moisture from the atmosphere.

Hot air temperature should not exceed 160° F, and air pressure should not exceed 50 p.s.i.



Complete description of a typical set up for this type of drying will be found in sheet No. 4 of this series.

3. ATMOSPHERIC OVEN

DO NOT DRY LIQUID CHARGED VALVES BY THIS METHOD.

4. HEAT AND VACUUM

DO NOT DRY LIQUID CHARGED VALVES BY THIS METHOD.

Reprints of these articles, size 8½ x 11" and punched to fit a standard 3-ring binder are available on request. Write for your copies.

DETROIT LUBRICATOR COMPANY Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION

No. 899 New "Dura-fram" Expansion Valve

Capacity: 1.6 to 6 tons Freon, 2 to 19 tons methyl. Has external equalizer and forged union connections. Inlet and Outlet ¼", ⅜" and ½" O.D. tubing. Flared nut for ¼" tubing on equalizer.

No. 893 "Dura-fram" Expansion Valve

Adjustable type. Capacity: ½ ton Freon, 9 ton methyl. Inlet ⅜" or ½" SAE. Outlet ⅜" female IPT or ½" SAE. Has strainer at inlet.

No. 787 "Dura-fram" Expansion Valve

Improvements of large capacity line. No. 788 is rated 12 to 20 tons—No. 787, 8 to 11 tons and No. 786, 3 to 6 tons. Has external equalizer connection and can be furnished with No. 790 Distributor with either 6, 12, or 18 openings ¼" each) for multiple distribution.

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General Offices: 5900 TRUMBULL AVENUE DETROIT 8, MICHIGAN

Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION

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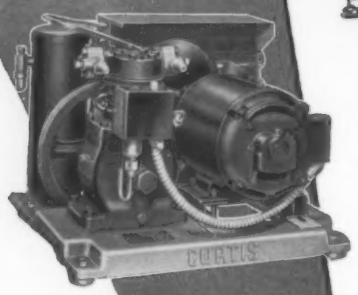
. . . are universally known for their dependability and freedom from maintenance expense. Your installation will give just as satisfactory, trouble-free service as the thousands now in use throughout the world. Read what one user says about his Curtis Model 50-R Unit.



Write for Bulletins

CURTIS REFRIGERATING MACHINE DIVISION
of Curtis Manufacturing Co.
1915 Kienlen Avenue
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FINEST QUALITY MEATS
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May 9, 1945

Curtis Mfg. Co.
Curtis Refrigerating Mach. Div.

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Sinc

Fra

P.S. It's a model 50-R

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be sure

YOUR REFRIGERANT IS DRY

use

JAY CEE SILICA GEL

Get that "last drop of water" out of your refrigerant. Use Jay Cee Refrigeration Grade Silica Gel in your dehydrating cartridges. By careful comparative tests Jay Cee Gel has been found to be a superior dehydrant.

It instantly dries methyl chloride, sulphur dioxide, freon and other refrigerants. Prevents corrosion and ice formation. It is chemically inert . . . removes acids from the refrigerant . . . is not affected by oil . . . has high particle strength and does not break down in use. Because of great pore surface area (1 cu. in. = 50,000 sq. ft.) has highest moisture adsorption capacity. Developed especially for the refrigeration industry under strict laboratory control. Write for complete bulletin and prices.

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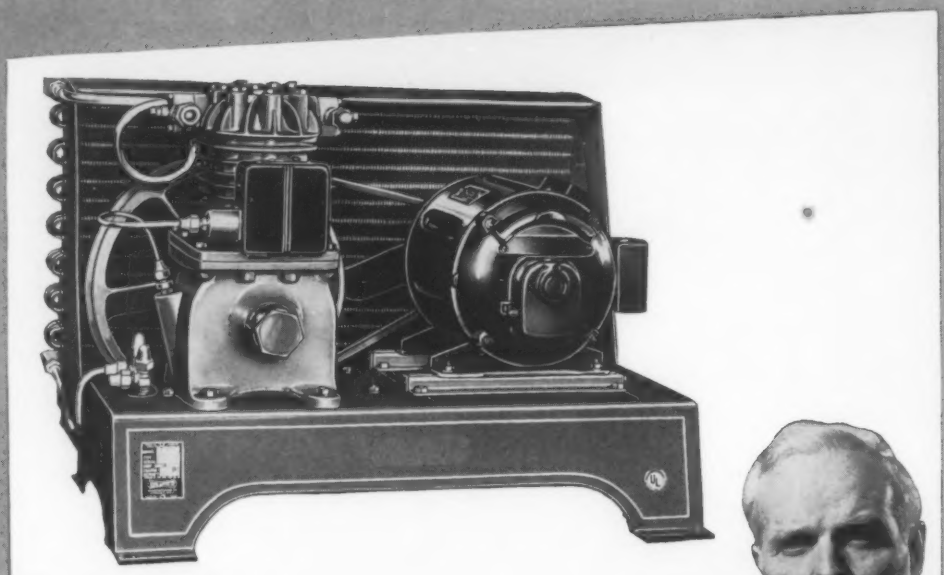
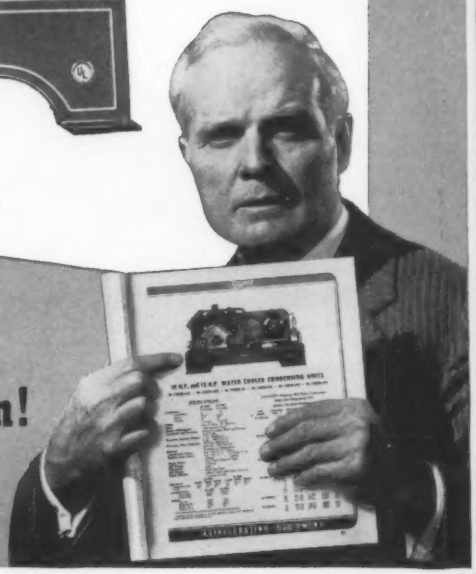
BRUNNER REFRIGERATION HELPS YOU TO SERVE BETTER





When you specify BRUNNER Condensing Units ...you're buying refrigeration!

When you buy a Brunner Refrigerating Condensing Unit you're buying *refrigeration,* not merely pounds of metal!

Brunner Refrigerating Condensing Units are designed and built along the lines of a unit that you, with your intimate knowledge of the essential requirements, said you must have. The result is a line of condensing units that reach a new high in the Brunner standard of perfection. Many changes were made to increase an already high efficiency, further reduce existing low operating costs, broaden their applications—while still holding price in line—and never losing sight of Brunner engineering integrity.

Whether your requirements call for a ¼ horsepower unit or for a 25 horsepower unit, air-cooled or water-cooled, there is a Brunner Refrigerating Condensing Unit designed to meet them to the minutest detail.

They are all described and illustrated in the Brunner Refrigerating Equipment Catalog, which also contains valuable engineering data, information and tables. Write for a copy.

BRUNNER

BRUNNER MANUFACTURING COMPANY, UTICA 1, N. Y., U. S. A.

FOR *Lasting* PROTECTION USE THESE HENRY STRAINERS

The protection these Henry Strainers provide for suction and discharge lines is complete, positive and long lasting. Screens are so securely held in place that by-passing is impossible. Foreign particles in a system are permanently trapped before they can impair efficient operation or cause damage to control equipment or internal compressor parts. And Henry screen areas are so generous in size, and free areas consequently so extensive, that there is no appreciable pressure drop even after long periods of service.

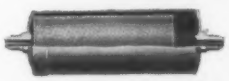
Maximum protection against leakage is inherent in the design and construction of Henry Strainers. The brass shells on Types 890, 891 and 892, for example, are drawn in a die, with a soldered cap only on the inlet end. The Type 866 Angle Strainer has a patented, distortion-proof flange which not only prevents leakage, but permits cleaning the screen without removing the strainer from the line. Fittings and connections are all silver soldered, and possess more than sufficient strength to withstand all installation strains. Use these Henry Strainers on all your jobs, to give your customers efficient, low cost protection and to assure satisfaction with your work.

ASK YOUR JOBBER . . . HE ALSO RECOMMENDS HENRY STRAINERS

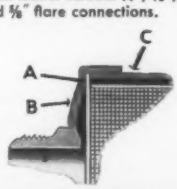
HENRY Soldered Shell Strainers

TYPE 890...Has 4 sq. in. screen area, 120 mesh brass screen with No. 10 brass screen reinforcement. 2" O.D. ¼", ⅜" and ½" flare connections.

TYPE 891...Screen area, 11.5 sq. in. Welded seam 100 mesh monel screen. Also 50 mesh screen for suction line service. ¼", ⅜" and ½" flare connections.



TYPE 892...Has 26 sq. in. screen area. Choice of 100 mesh or 50 mesh monel screen. ¼", ⅜", ½" and ⅝" flare connections.



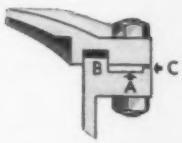
ANCHORED SCREENS PREVENT BY-PASSING

In this cross sectional detail of the inlet end of a Henry Soldered Shell Strainer, note how the screen collar (A) is anchored between the end cap (B) and the shell (C).

Angle Strainer with Solder Connections

TYPE 866

The strainer screen can be removed for cleaning and reinserted without taking strainer from the line. Will not trap oil. 100 mesh welded monel screen. Available sizes: ⅜" to 2⅛" O.D.S. inclusive and with screen areas ranging from 23 to 85 sq. in.



PATENTED FLANGE IS DISTORTION-PROOF

Strains due to uneven or excessive bolt tightening are absorbed in recessed area (A) and cannot be transferred to flange gasket face (B). Outer flange rim lip (C) acts as "stop" to prevent excessive drawing up of bolts.

PATENTED SPRING DESIGN PREVENTS BY-PASSING

The strong spring (A) provides positive tight sealing action of screen cartridge collar on end of shell (B), thereby preventing by-passing of the refrigerant between outside of screen cartridge and inner surface of strainer.

HENRY VALVE CO. TRADE MARK

HENRY VALVE COMPANY 3260 WEST GRAND AVENUE, CHICAGO 51, ILL.

PACKLESS AND PACKED VALVES · STRAINERS · DRYERS FOR REFRIGERATION AND AIR CONDITIONING
AMMONIA VALVES · FORGED STEEL VALVES AND FITTINGS FOR OIL, STEAM AND OTHER FLUIDS

MUELLER BRASS CO.

Improved HEAT EXCHANGER

Compact and Efficient For Ice Cream Cabinet or Similar Small Installations

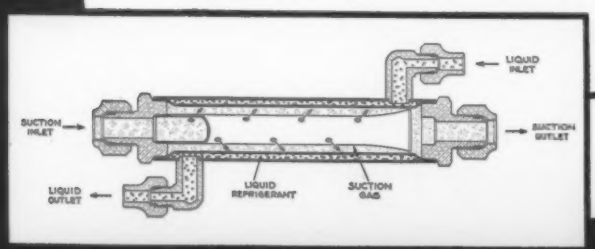
● The Heat Exchanger illustrated below is an addition to our line and intended for use in ice cream cabinet work and in similar installations where a small, compact, yet very efficient heat exchanger is required. Note that overall length is only 8¼."

It is designed to provide maximum heat exchanging capacity where available space is at a premium.

Special combinations of inlet and outlet fittings can be furnished so that this compact unit can be adapted to your particular requirements.

Catalog No.	Suction Line	Liquid Line	Overall Length	Heat Transfer Area
A-13730	½" Flare	¼" Flare	8¼"	18 Sq. In.

Flare Nuts and Seals are furnished with Exchanger, thus keeping units dry and clean.



ORDER FROM YOUR JOBBER

MUELLER BRASS CO.

PORT HURON, MICHIGAN

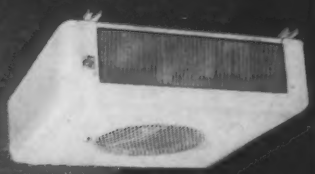
developed by Western heat exchange experts

d-h EQUIPMENT PERFORMS BETTER ANYWHERE...

Now Western industry contributes advanced knowledge and experience to the specialized science of heat exchange. d-h equipment... designed, engineered and manufactured by our own organization at Los Angeles... is setting new standards of performance throughout the country and in many foreign lands as well.

The complete line includes air conditioning equipment, refrigeration equipment, airplane exhaust heaters, air and liquid coolers, heaters, coils... each with outstanding qualities that invite comparison. They represent more than a generation of Western heat exchange development. Into them go thorough knowledge of heat exchange principles, expert designing for proper proportion and balance, and experience in manufacturing quality products with the finest factory facilities.

Our engineers are ready to help you solve your heat exchange problem. Perhaps the answer is ready and waiting... perhaps only minor adaptation of standardized equipment is necessary. Write us about your needs.



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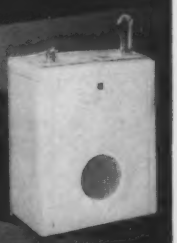

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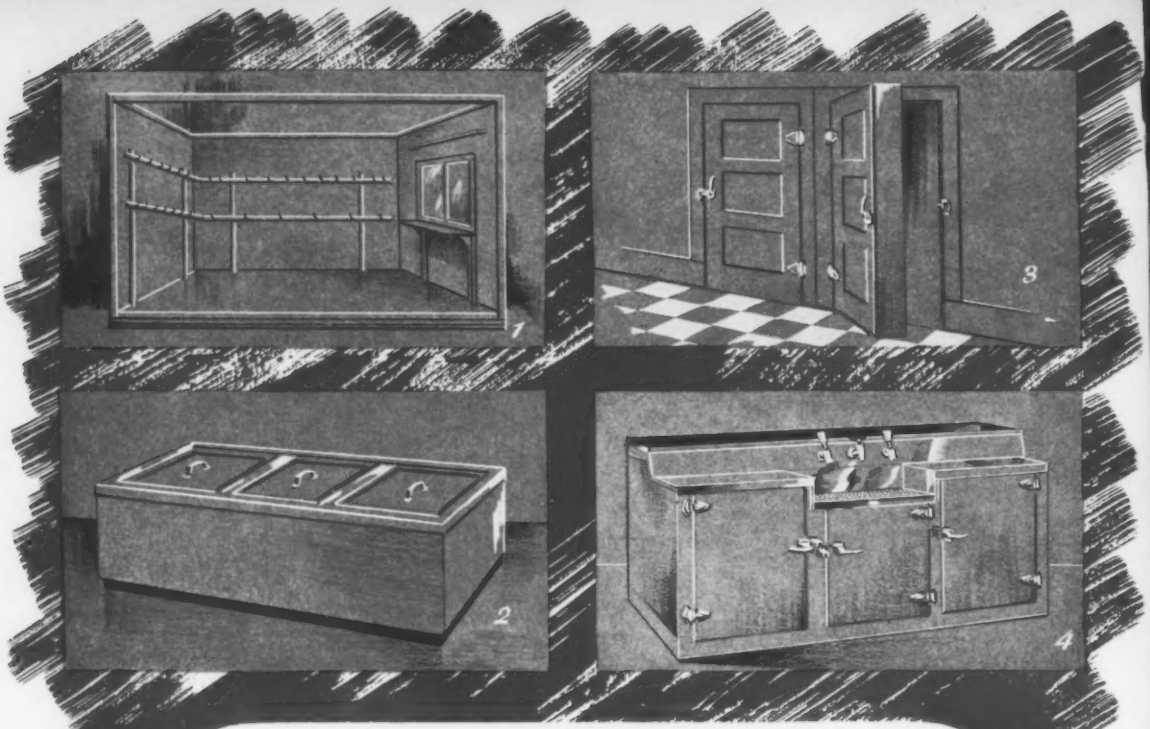

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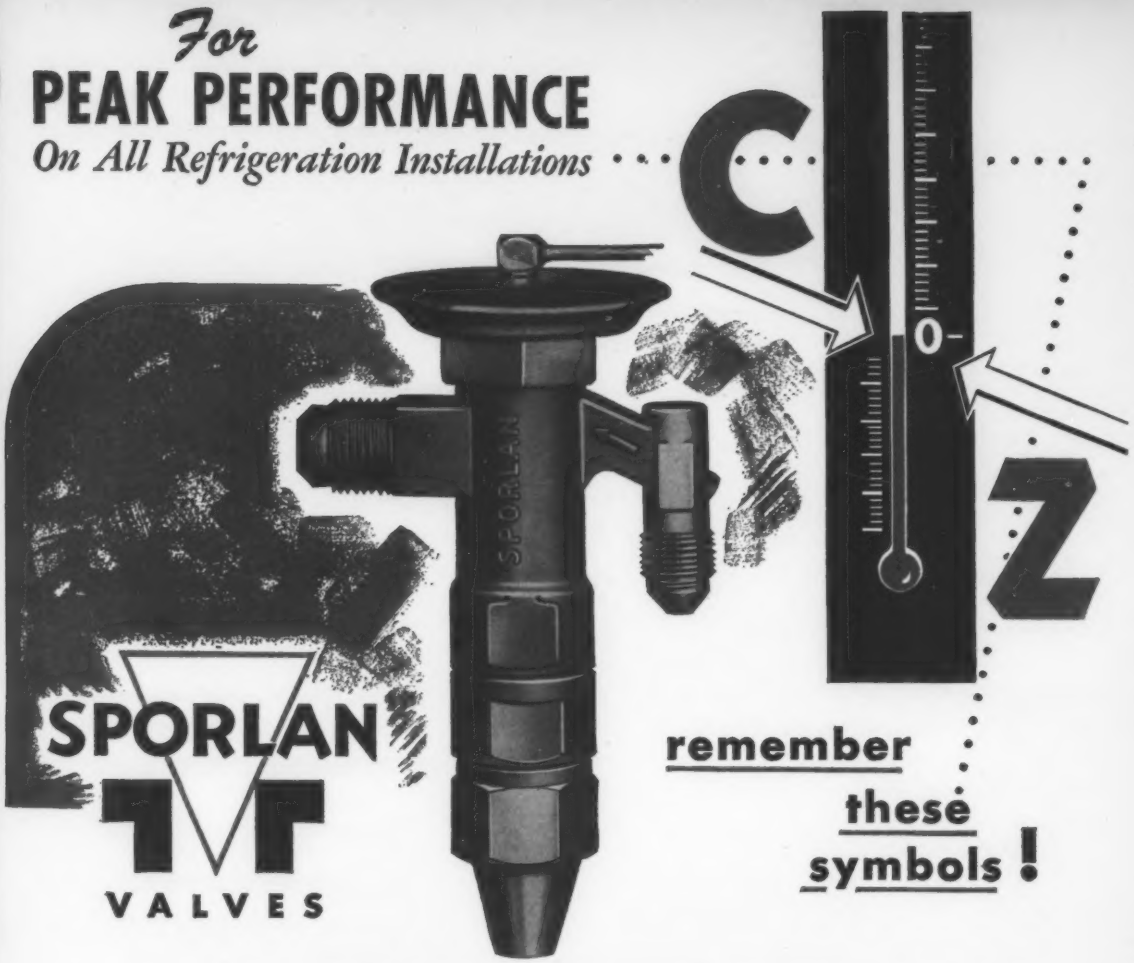

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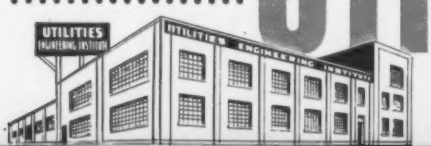

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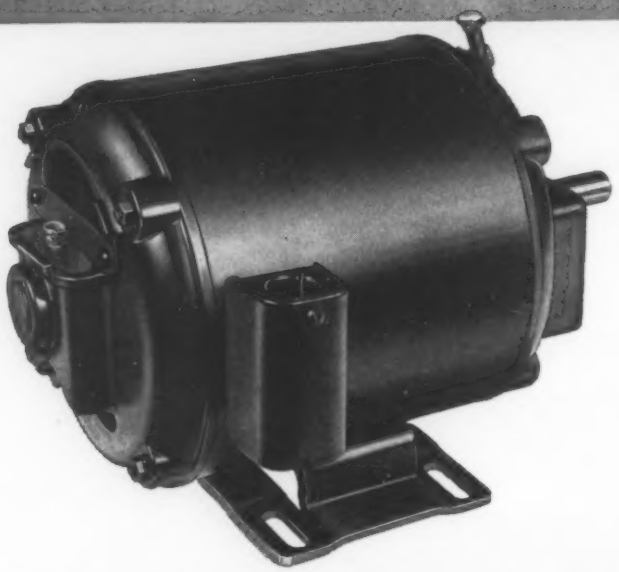

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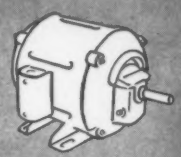
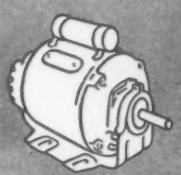
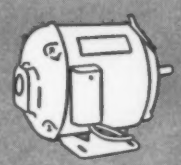


REPULSION-START INDUCTION

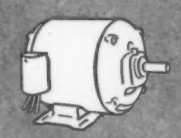


CAPACITOR-START INDUCTION

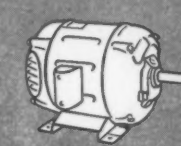


SPLIT-PHASE

DIRECT-CURRENT



POLYPHASE



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News • Laws • Trends

Harvester Adds to Plant Space. A surplus war plant at Melrose Park, Ill. has been purchased by International Harvester Co. and will be used for the manufacture of refrigerators, milk coolers, and other industrial diesel power equipment. The plant had been leased to Buick Division of General Motors during the war for production of parts and assemblies for Pratt & Whitney aircraft engines. Purchase price of the plant was $13,750,000.

New Manufacturing Combination. General Tire & Rubber Co. and Liquid Carbonic Corp. have announced formation of the Frostor Co. and their plans to introduce a combination refrigerator and freezing unit for the home. A million-dollar factory to produce the new Frostor unit is being constructed at Morrison, Ill. Details of the new refrigerator are given in an article in the "New Products" section of this issue.

Norge Production Hopes. Anticipation of a return to "normal" operating conditions in the two Muskegon, Mich. plants of Norge Division, Borg-Warner Corp. in the near future has been expressed by Howard E. Blood, Norge president, following termination of strikes at the two factories.

Present plans call for production of all refrigerator compressor units in the Muskegon plant, strikebound since July 24 and for output of refrigerator cabinets in the Muskegon Heights plant, which has been shut down since Sept. 8.

New "Hand" in the Game. J. L. Hudson Co., Detroit department store, may be in the commercial refrigeration sales business for keeps. Caught during the war with a frozen stock of such units, as well as restaurant-size electric ranges and deep-fat fryers, the company managed to liquidate them by means of direct mail promotion. It is reported that its success in this experience has encouraged the company to continue handling these lines.

Two-Year Cooling Course. A two-year course in refrigeration has been inaugurated in the vocational training program of the industrial division of Utah State Agricultural College, Logan, Utah, according to E. C. Jeppson, division director.

Purpose of the class, Mr. Jeppson explains, is to prepare apprentice refrigeration men. The course, which will call for approximately 2,000 hours of work, will give academic credit and a "Two Year Terminal Certificate" will be awarded upon completion. Present instructor is J. Cecil Sharp, a graduate mechanical engineer with several years of field experience.

Low Temp Looks Good. Belief that the constantly increasing flow of orders for low temperature controls mirrors the rapid expansion of the low temperature refrigeration field has been expressed by E. A. Vallee, vice president and general manager of Automatic Products Co.

Mr. Vallee points out that the continuing growth of his company's low temperature control sales is indicative of the fact that the field which utilizes these types of control equipment also is surging ahead in the postwar period.

New REWA Members. Six more refrigeration supply houses have been added to the growing ranks of the Refrigeration Equipment Wholesalers Association. These new members are:

Abe Gruber & Co., Elizabeth, N. J.; Acar Supply Co., Philadelphia; Lee-Sparling Co., Detroit; Midwest Refrigeration Supply Co., Grand Rapids, Mich.; Rauch & Monroe, Oakland, Calif.; and Peerless Pacific Co., Portland, Ore.

REWA also has decided to revise its constitution with a view toward clarifying old regulations and establishing a firmer jobber policy. A broad program of expansion has been planned, with steps being taken to conduct an advertising campaign aimed at keeping the industry informed of the aims, activities, and accomplishments of the association.

Vets "Case" Appliance Business. Radio and electric appliance shops seem to be first choice of returning service men who are looking for an opportunity to get into a business of their own, according to the letters they have been writing to the U. S. Department of Commerce.

The Department has been getting about 225 queries weekly from GI's who express their desire to open radio or electric shops, restaurants, filling stations, apparel stores, grocery stores, real estate offices, and insurance agencies, in that order.

Two to a Home. Almost every American home will be equipped with a second refrigerator or a combination refrigerator-freezer within the next five years, James H. Carmine, Philco Corp. vice president, declared in a recent address before the Adcraft Club of Detroit. Household refrigeration, he said, faces the same opportunity for growth as the "radio in every room" created for the radio industry.

Iceboxes Plus Home Freezers? Best estimates by the ice producing and ice refrigerator manufacturing industries place the number of iceboxes in this country needing replacement at between 10 and 11 million. So the "$64 question" now is whether these replacements will be made with another icebox or with some type of a mechanical refrigerator.

Speakers at the last annual convention of the National Association of Ice Industries, who made the reports on this replacement field, urged ice refrigerator sales organizations to establish more attractive showrooms for display of their products, and advanced ideas such as selling iceboxes in combination with mechanically refrigerated home freezers to more fully care for the householders' food preservation needs.

Air circulation in the Voget locker plant is obtained through use of wooden slat type locker units shown.

★

Beef hanging in the Voget plant's holding room, which is served by a blower-type distribution system.

★

Here Today...

If you're a wide-awake contractor, profits don't end with the original installation. Customers come back or—if you're like this dealer—you go after them

By L. H. Houck

PROFITS don't end for a refrigeration dealer when he has completed a locker plant or installed specially designed refrigeration equipment in farm homes. Food processing and refrigeration methods and equipment progress hand-in-hand, and the services of the refrigeration dealer are always in demand.

This is a case history of a few jobs completed by Jim Bradley, one of the oldest refrigeration dealers in Portland, Ore., who operates a 24-hour service and a complete machine and electric motor shop in connection with sales, service and building lockers and special equipment.

Ten years ago Mr. Bradley built the locker plant for Garfield Voget at Hubbard, Ore., 30 miles south of Portland. Today he is installing coils and equipment in another addition to the plant. A short time ago changes were made in cooling the holding room and in defrosting the locker rooms.

The holding room was changed to a blower-type cooler with the blower drawing the air from the floor through a duct and pulling it around the coils and then discharging near the ceiling from the outlets of several ducts. This draft is gentle and there is no violent agitation. The room is now much drier and the meat

(Far left) Part of the 17 tons of refrigerating machinery which helps maintain safe storage temperatures.

●

Here is Jim Bradley and the blower duct assembly he installed in the plant to obtain better circulation.

The Bradley shop is equipped for all types of service work. Here Mr. Bradley is checking a measurement.

Sometimes the shop makes its own equipment. Micrometers in foreground were made by Bradley men.

BACK TOMORROW

is kept in better condition.

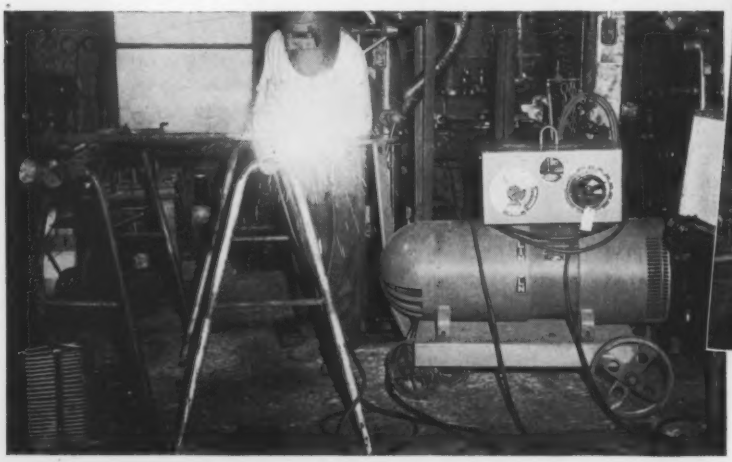
Defrosting of the two large locker rooms which contain about one-half million pounds of meat is accomplished by closing off the discharge to the condenser and allowing the warm air from the compressor to go to the coils. Ice on the coils is loosened in a few minutes and is caught in canvas and the whole operation is completed in three or four hours. In the meantime the floor is dry and there is no odor in the rooms.

All the lockers in this plant are of open-slat wood construction that allows complete circulation of the refrigerated air throughout the inside of the lockers.

Two compressors, one 3-ton and the other 5-ton, handle the locker rooms. Only one is operated at a time. Construction of the locker room is such that if the plant did go down the rooms could be kept safe for about two weeks without use of the compressors, according to Mr. Bradley and Mr. Voget, owner of the plant.

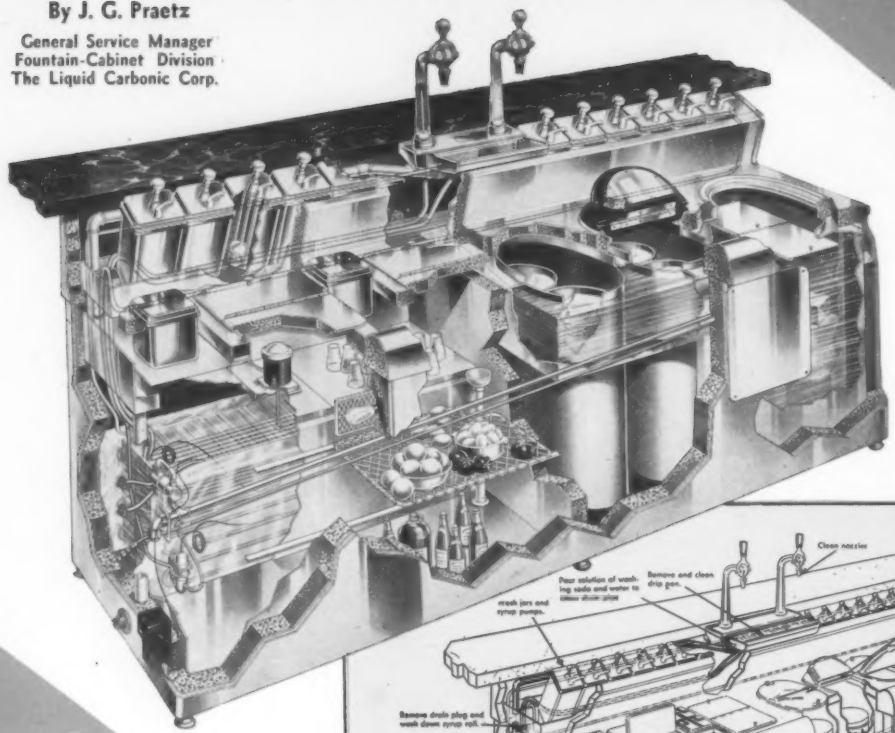
Another compressor handles the holding rooms; the new addition will

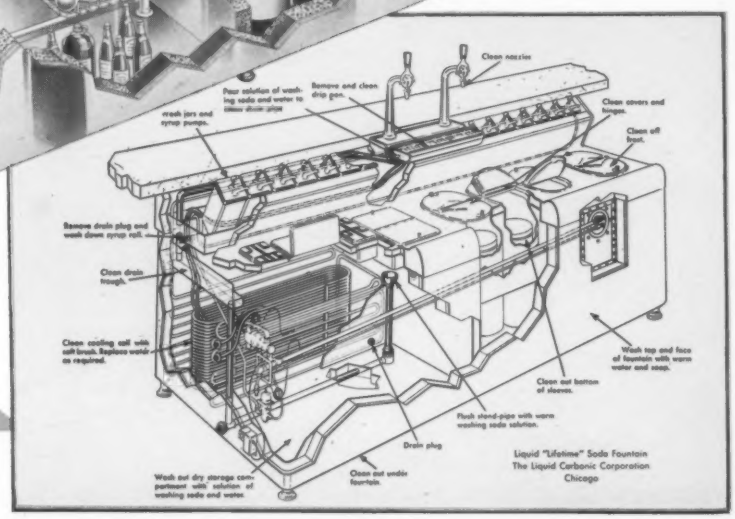
Continued on page 48



Above, Mrs. Bradley solders a commutator; at left, the shop's electric welder does a job.

By J. G. Praetz
General Service Manager
Fountain-Cabinet Division
The Liquid Carbonic Corp.




Clean nozzles
Remove and clean drip pan.
Clean covers and hinges.
Clean sink bowl.
Remove drain plug and wash down syrup rail.
Clean drain trough.
Clean cooling coil with soft brush. Replace wood as required.
Wash top and face of fountain with warm water and soap.
Clean out bottom of storage.
Flush stand-pipe with warm washing soda solution.
Drain plug
Clean out under fountain.
Wash out dry storage compartment with solution of washing soda and water.
Liquid "Lifetime" Soda Fountain
The Liquid Carbonic Corporation
Chicago

Figs. 1 and 2. "X-ray" views of the "Lifetime" fountain.

"LIQUID" Fountain Refrigeration

WITH more and more G.I.'s returning to civilian pursuits, many into refrigeration service, and new men entering this important and interesting field, a discussion of the operation, installation and servicing of soda fountain refrigeration systems is very timely.

This series of articles will discuss "Liquid" fountain refrigeration systems from 1935 and serve as a refresher to those who formerly serviced this class of refrigeration equipment. Service bulletins covering more completely all the equipment discussed are available from the Service Department of the Liquid Carbonic Corp., 3100 South Kedzie, Chicago 23. These articles are a condensation of this service literature.

Beginning a timely series on soda foundation equipment prepared especially for The Refrigeration Industry

This series of articles was prepared by J. G. Praetz (right), general service manager of the Fountain-Cabinet Division of Liquid Carbonic Corp. Chicago, Ill.

Freon (F-12) refrigerant was adopted for all "Liquid" fountain refrigerated equipment in 1935 and its use has been continued to date.

* * *

"Lifetime" Fountain Refrigeration System 1935 thru 1940 (Low Side Float)

The Liquid "Lifetime" soda fountain has a patented stub type of hold-over tank built into the ice cream section. This provides a lateral tem-

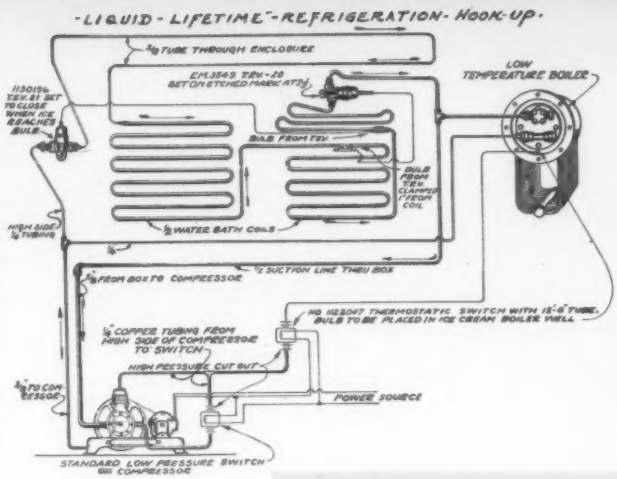
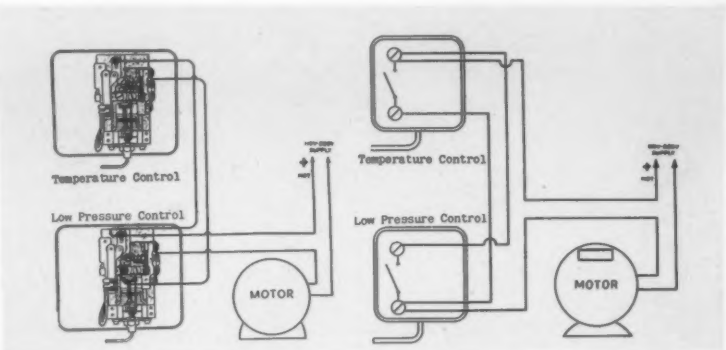


Fig. 3 (left)—Schematic view of "Liquid" refrigeration hook-up on low side float unit, 1936.

Fig. 4. Condensing unit control wiring diagrams, dual control hook-up. Temperature and pressure controls connected in parallel; (left) electric overload coils in series, (right) motor equipped with built-in overload protector.



perature variation resulting in a low temperature brick compartment while the bulk storage sleeves increase slightly in temperature extending away from the ice cream section evaporator, the warmest sleeve being furthest from the evaporator.

Figs. 1 and 2 show X-ray views of the "Lifetime" fountain. Only three refrigerant controls are required in the refrigeration system, a low side float valve in the ice cream flooded evaporator, a thermostatic expansion value in the syrup rail-water cooling sections, and a thermostatic regulating valve to control the amount of ice formation in this section.

The syrup rail is refrigerated by a single loop of copper tubing connected in series with the water cooling section evaporator. The refrigerant flow is controlled by a thermostatic expansion valve, passing first through the syrup rail, then to the water cooling section evaporator and out through a thermostatic regulating valve, TRV20.

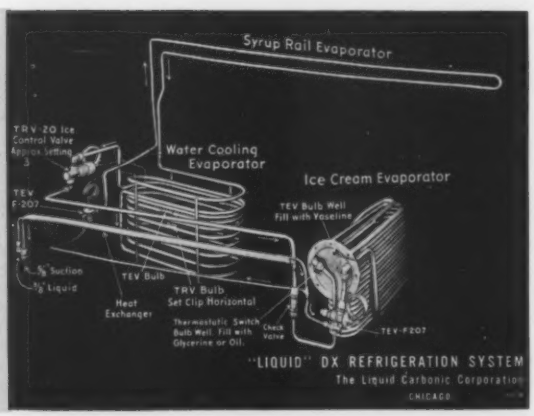
Fig. 3 shows diagrammatically the refrigeration hook-up on these fountains.

The thermostatic expansion valves used on the "Lifetime" fountain were originally TEV21 (Frigidaire) but were changed in 1939 to a TEV18 which had a smaller orifice. This resulted in better flooded conditions in the water cooling evaporators, with

Continued on page 42

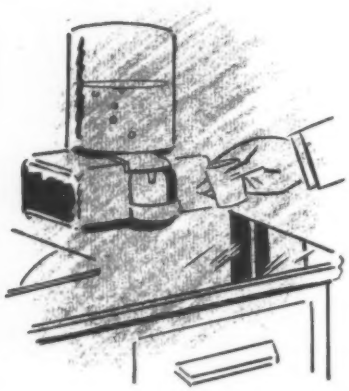
Systems - - - Installation and Service

Fig. 5. (left)—DX ice cream section evaporator assembly. Fig. 6 (right)—DX refrigeration system used on "Lifetime" 1940-41 soda fountains.



Water, Water,

That's a three-second summary of the potential market for electric drinking water coolers. Here's an estimate of the trend sales and distribution may take in days to come



By Richard A. Angus
Sunroc Refrigeration Co.

ONE of the brightest phases in the future of the refrigeration industry is to be found in the prospective sale for self-contained, mechanically refrigerated drinking fountains. That's a long way of describing what is commonly known as a water cooler. However, water may be cooled in many ways, and cooled water may be used for many purposes other than the quenching of thirst; it is well, therefore, to define the product that should triple its pre-war unit volume in the years ahead. Unlike most products of the industry, no set pattern of distribution has been reached in the marketing of water coolers. It has been successfully sold by manufacturers direct to customers, or to dealers, or to distributors—and sometimes to all three.

Production and distribution of water coolers by most pre-war manufacturers is about to be resumed. Certain factors in the situation are reasonably clear, but optimum sales techniques are not among these. Most important element appears to be that the mechanically refrigerated unit is destined for much greater acceptance and wider application than was thought possible only a few years

The full market for electric drinking water coolers is a picture no artist could paint—it's far too wide and too varied. Here are pictured some of the most active present and future markets: homes and offices, railroad cars, offices, industrial plants, schools and on shipboard.

Everywhere...

ago. Several manufacturers are considering the introduction of a water cooler of much smaller size, less capacity and lower cost, so as to appeal to the household market. One of the larger companies has already submitted its ideas along these lines, and similar developments from other producers may be expected shortly.

This new application is definitely not a gadget, but a sound development that will meet a real demand in many homes for a source of cooled water that is entirely independent of the household's refrigerator. It is difficult to judge the potential in this market, but it is not impossible that an industry in which the annual prewar volume was less than 100,000 units a year will, by 1948, do several times that volume in the household field alone.

Meanwhile there is a heavy pull at the opposite end of the equation. New applications of a more specialized nature are becoming more obvious, every day. Just before the war, unit water coolers made their appearance in deluxe passenger coaches. The railroads are anxious to expand this mechanical equipment, and the old iced type wall water cooler will soon be a thing of the past. The roads are also interested in securing mechanical water coolers for the use of train and locomotive crews to eliminate the endless struggle with ice.

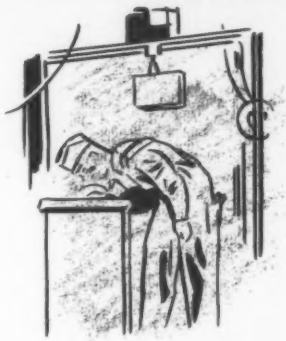
To sell this sort of job, the manufacturer will need to use his own sales force, reinforced with the best engineering talent at his command, since the problems involved are not within the scope of the Appliance dealer or distributor. The pull of these extremes may be expected to determine the manufacturer's merchandising methods to a great extent, depending chiefly on the path he chooses to follow—volume production or specialized production.

Another factor with which to reckon is the greatly increased public acceptance of water coolers, as previously known, during the war years. Millions of service men became reasonably familiar with water coolers both aboard ship and in land installations. They will continue to expect this essential service to normal creature comfort when they become employees and customers back home.

Labor too, may be expected to demand proper drinking water in manufacturing plants and its influence has already been felt in this connection. At the same time theaters, shops, offices, department stores and places of amusement are realizing that not just water, but properly cooled water, must be available to their patrons.

Tremendously increased production facilities will be available shortly throughout the industry. At least one producer tripled his capacity due to war-time demand, and several

Continued on page 54



CONTRACTORS

News • Activities • Plans

National Refrigeration Contractors Association Officially Organized

One of the most significant meetings that has occurred recently was held Monday, Dec. 10 at the Palmer House, Chicago. There, the National Association of Refrigeration Contractors was officially brought into being by the unanimous vote of almost 30 contractors from over 20 cities.

The meeting, inspired and called by Ray Kromer of Cleveland, was surprisingly well attended and attested to the crying need for some kind of contractors' organization. In addition to the contractors attending, there were also present a number of local association secretaries who had been sent there by their respective groups to urge the meeting to form itself into a much needed national association.

Taking these local groups into consideration, and counting on the number of individual members in each group, this healthy fledgling already has membership of over 350 contractors. It is not too difficult to project a membership of several thousand.

Mr. Kromer was elected chairman and president to serve through the organizational period. Warren Farr of Cleveland was elected vice chairman, Art Palen of St. Paul, treasurer, and Eldon S. Wright of Youngstown, secretary, all for the same period.

A committee was appointed to draft a permanent constitution and by-laws which, of course, will cover the usual things such as dues, conditions of membership, various definitions, etc. This committee will report back to the next meeting, which will be held in Cleveland, Ohio at the Carter Hotel Jan. 21, 1946.

Mr. Wright, temporary secretary, invites all contractors who are interested in joining the association to get in touch with him. Correspondence should be addressed to E. S. Wright, c/o 353 Hipp Theater Building, Cleveland 15, Ohio. All memberships accepted up to the time of the Jan. 21 meeting will qualify for "charter" membership classification.

The by-laws now being drawn up will provide for admission of individuals, partnerships or firms employing recognized refrigeration mechanics; also, members of local contractor groups affiliated with the national organization may become associated through a separate arrangement, it is planned.

As presently planned, dues will be set up on the basis of the amount required to handle the affairs of the organization. On the basis of the existing set-up, financial aid is not being asked; prepaid dues are being accepted, however, to defray costs of organization, pending establishment of a permanent financial budget.

AN EDITORIAL

I attended the formation meeting of the NATIONAL ASSOCIATION of REFRIGERATION CONTRACTORS in Chicago last week. I've sat in on many a birth like this but never in all my experience have I seen a group act with more unanimity of purpose. Every man was there for business. Every man expressed and felt the necessity of an organization which would bring unity and orderliness out of the present contractor situation. Every man knew the many advantages to be gained from a strong national organization, and if I am any judge of new associations, this one will be strong. There was no bickering, no pettiness. These men knew they were approaching a very serious problem and they approached it with full consciousness of their responsibilities.

Unless you were actually there it is difficult to report the fine attitude shown. Here came, from the four corners of our nation, a group of men who had never met each other. All, driven by a singleness of purpose, were determined to get together so that they would have a place to discuss their common problems and learn from each, and thus take advantage of unity rather than be harassed by acting as individuals.

It was a terrific meeting, and with this great start *The Refrigeration Industry* magazine wants to urge you not to miss the FIRST OFFICIAL meeting to be held in Cleveland on Monday, January 21. It is your problem just as much as it is the problem of the men who spent their time and money to gamble on the trip to Chicago. Give this organizational group your whole-hearted support by being in Cleveland. You'll benefit in the long run.

Irving B. Hexter

PUBLISHER

FIRST OFFICIAL CONTRACTORS MEETING SET FOR CLEVELAND

W. L. Drake, 237 Highland Ave., Indianapolis, Ind., chairman of the membership committee of the newly formed National Association of Refrigeration Contractors urges all contractors to plan to attend the first official meeting of the new association.

This meeting will be held at the Carter Hotel, Cleveland, Ohio on Monday Jan. 21, 1946, at 9:30 A.M. The various committees appointed for organizational purposes will report to the whole meeting and all final steps for a permanent organization will be taken.

Mr. Drake requests that every contractor planning to attend this important meeting wire for hotel reservations in Cleveland at once.

Mr. Weis (right) and one of his salesmen inspect one of the farm freezers the company will handle.

Is commercial refrigeration over-engineered and undersold? One distributor thinks so, and he tells here the methods he plans to employ to keep "selling" on top

ACCENT ON MERCHANDISING

OVER-EMPHASIZED engineering, under-emphasized sales . . . over-emphasized prices, under-emphasized performance—in the opinion of Henry Weis, Jr., has been one of the principal reasons why many commercial refrigeration firms have found the road to profits rocky in the past.

The Henry Weis, Jr. organization recently took over General Electric commercial distribution in St. Louis and adjoining Missouri and Illinois areas, and has opened new office, sales and service quarters at 1919 Washington Ave. in St. Louis. Mr. Weis is an old-timer in commercial refrigeration, and has been identified with the industry for the past quarter century. He was at one time manager of the James & Co. commercial refrigeration department, and later served in the same capacity with G-E Supply Co.

In the past, the company's principal sales emphasis has been on beer cooling and other "package" commercial equipment, and it is on these lines that it expects to concentrate its efforts in the future. The principles of its operation, however, are applicable to all commercial selling.

"Our emphasis has always been on merchandising," Mr. Weis says, "and we intend to keep in on that plane in our future activities. Merchandising is the answer to profitable operation in the commercial refrigeration field, no matter what type of equipment you're specializing on.

"The records are filled with instances where commercial refrigeration firms have failed because they concentrated all their emphasis on engineering, and slighted the merchandising side of the business. No one can minimize the importance of sound engineering practices, but it's a mistake to make it an end in itself. Rather, it should be considered a means to an end; as an associate—a teammate, so to speak, of aggressive merchandising."

Here's How Troubles Begin

Another point which has been a stumbling block to the successful operation of many commercial refrigeration firms, in Mr. Weis' belief, is a too easily encouraged tendency to take a more than normal number of jobs on a basis of price rather than performance. This tendency might not make itself too evident in the months just ahead, when demand for merchandise is likely to outrun the supply. Sooner or later, however, it's going to crop up, and when it does, those firms who sell for the sake of sales, rather than profits, will find the financial road pretty rough.

An aggressive merchandising policy will overcome this tendency too, Mr. Weis says. If your organization is on its toes, running down all leads and on the alert for new ones, you'll come out with your share of the business—and at a profitable margin, if your product (and engineering) is right. It's the firms who are shaky on one or the other of these counts who usually start the prices downward; their sales opportunities aren't too numerous, and they feel they must land all the deals they can, with or without their full profit margin.

The Weis company will operate wholesale and retail in St. Louis, and wholesale in the territory with the complete G-E commercial refrigeration and additional fill-in lines. Water and beverage coolers, in addition to beer dispensing equipment, will figure importantly in the company's lines. Chil-Kwik beer faucets and auxiliary equipment also will be merchandised by the company, as will farm freezers, the latter primarily in the suburban and rural areas.

Key men in the company—sales, service, and office—will figure in a profit-sharing plan based on volume. Service men will be given a percentage bonus on the leads they develop that are sold by the company. This Mr. Weis believes, will key the entire organization into the merchandising side of the business.

WE'RE PLENTY BUSY SINCE WE TEAMED UP!

Type O-1414 for Milk Coolers
Keeps milk at right temperature even if location of temperature control switch is extremely cold.

That's right, when refrigeration engineers team up with Ranco Controls, they're both busy. The precision accuracy, dependable service, and handsome Stainless Steel cases of Ranco Controls make new friends quickly and strengthen the ties of old customers.

See Your Ranco Jobber Today

Ranco Inc.

COLUMBUS 1, OHIO

"Let's share our knowledge—exchange our experience"

Here's how

Edited by
Warren W. Farr

Don't Make Them Guess

In returning condensing units and other parts to the factory for reoperation, be sure to indicate clearly what the trouble is and why the unit has been returned. Simply saying that the unit is "defective" or "inoperative" gives the fellow at the other end of the line very little to work on.

This is especially true if the unit seems to be operating and in good condition. When the unit is put on test and operates, the inspector has to test the unit completely before repair work can be started. Much faster work can be done if the inspector knows before hand why the unit is being returned. A report which says, "runs, but no refrigeration," or "unit will not start," gives the inspector something to check. He can then diagnose the trouble quickly and get the repair work under way.

When you have to return a unit, write down a complete story on why it does not operate. You will save time for both yourself and the factory.

HERE is a suggestion which I find very useful here, where we have to be ready to go out on a job twenty-four hours a day, and have to be ready on short notice. We save time running around the shop looking for tubing by winding several lengths of different size tubing around our gas tanks which are 25 lb. and 10 lb. sizes. When we pick up the tank we have our tubing, too.

Marion E. Hayes (F-1/c), Solomons, Md.

Save Back-Tracking

Here's a fundamental rule we drill into all our new men, and often overlook ourselves. It's the matter of saving time in back-tracking by trying to keep a call or so ahead at all times.

If you're doing commercial work, there's always a phone in the place, or a pay phone only a few doors off. So that's not much of a problem—if you can remember to do it. In the home it may be another matter.

Generally, Mrs. Customer won't object to your using her phone to call in to your office; but don't forget to thank her and explain that you're doing it to save time both for yourself and for other users who may be needing service.

IN re-soldering motor commutators, get a wedge-shaped iron, or grind your present iron to that

shape. Next bend this iron handle at right angles to the handle, close to the copper. It does a nasty job very conveniently.

E. A. Fry, Grand Rapids, Mich.

FIVE DOLLARS REWARD

WILL BE paid by THE REFRIGERATION INDUSTRY for any information on installation or servicing procedures and shortcuts accepted for publication in HERE'S HOW, The Service Man's Department.

Send your suggestions on shop equipment and methods, tools, or other ideas to HERE'S HOW EDITOR, c/o THE REFRIGERATION INDUSTRY, 812 Huron Rd., Cleveland 15, Ohio.

New Products

Three products have recently been introduced which have more than ordinary interest for refrigeration service men. The first of these products, a new skin cream, is claimed to provide a full days protection against oils, lacquers, acids, caustics and other skin-harming solvents with which the service man is in daily contact. The cream, which contains lanolin, can be applied over sensitive or broken skin. The chances are that

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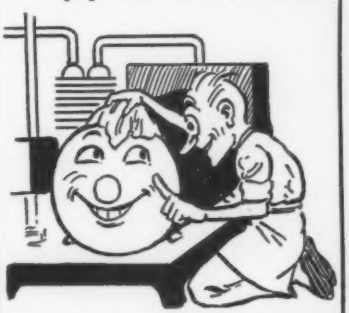
Keep the Motor Clean. The motor of the compressor undergoes a tremendous strain every day. It has been computed that refrigeration equipment runs the same number of hours in one year that a car engine would run if it was driven 150,000 miles at 35 miles per hour.



Whenever possible—and certainly whenever dirt has accumulated—shut the motor off and clean out the dust and gummy oil. Don't use water or cleaning fluids. Do use a dry cloth. (From "Refrigerator Care Pays Premiums," *Super Market Merchandising.*)

The Flowers that Bloom...

In the Spring may have nothing to do with refrigeration, but it can have plenty to do with them. Here's the proof.

THE old saying, "A rose by any other name would smell as sweet . . ." may well be true, and few florists (or refrigeration men) are inclined to argue the poet on the subject—but when it comes to sales appeal, both florist and refrigeration man can produce arguments—and sales bills to back them up—that flowers definitely bring better prices on the market when they're the offspring of healthy plants.

One refrigeration firm that's got down to the root of the problem, so to speak, is the Edward B. Joy Co., of Syracuse, N. Y., York commercial equipment distributor. W. H. O'Brien, manager of commercial refrigeration sales for this company, has had considerable experience with florist and nursery plants, and out of this has grown some valuable tips for other firms who might some time be confronted with the special problems of this field.

Take the case of Jackson & Perkins, Newark, N. Y., for instance. This company is said to be the world's leading growers of choice rose bushes. Refrigeration equipment was called in to solve a major problem—to help preserve the rose bushes grown by the company between the time they were taken out of the ground in the fall and the time they were to be offered for sale the following spring.

Without refrigeration, two major faults developed:

1. The sprouts dropped off the plants, and mould developed, injuring the plants for resale purposes.

2. As a result of the sprouts dropping off, the lower branches of the plant became barren, and the bush was no longer a "full" one, in the sense that florists and fanciers use the term.

To avert these problems while the bushes were in storage, Jackson & Perkins decided to try refrigeration equipment, which would make possible controlled temperatures to allow

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The Miniature Men of Sellersville, Pa.

ONE OF THE REASONS 6 OUT OF 10 PICK U. S. GAUGES

MODELMAKER'S SKILL TO Nth PRODUCTION-POWER

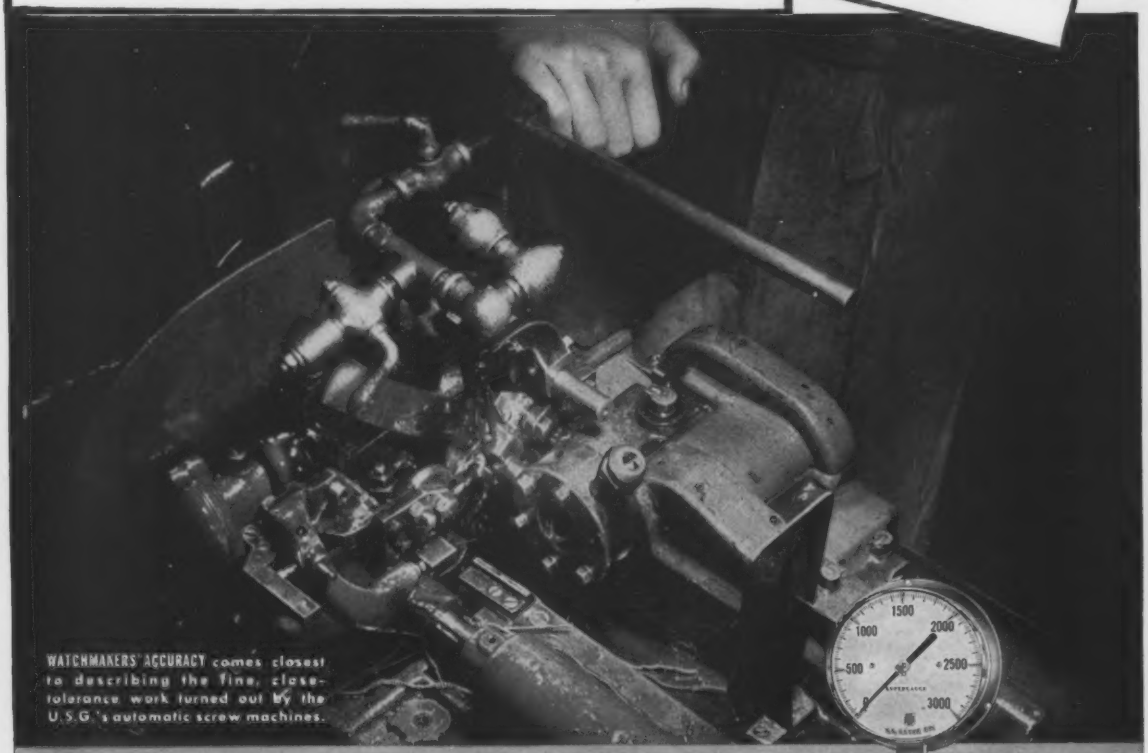
Among other things, a U. S. gauge is a marvel of columns, arbors, pinions, dowel posts, inserts and rivets, so small as to be the envy of a patient modelmaker, and accurate to a whisker. All parts of this type are produced to close tolerances in huge quantities on automatic machines. And all are made right in U. S. G.'s own Sellersville plant.

WHY 6 OUT OF 10 CHOOSE U. S. GAUGE

U. S. Gauge is famed for making 99-44/100% of its own parts . . . from the raw material level. Many of these manufacturing steps are exclusive with U. S. Gauge. Even more vital to you is U. S. G.'s *Manufacturing Control*, a system that keeps tabs on materials, manufacturing, assembly, calibration, testing, inspection . . . assures you the quality preferred by over 6 out of 10 experienced buyers.

SEEMS LIKE EVERYBODY WANTS THIS GAUGE CATALOG

Men of many titles in dozens of industries have swamped us with requests for the big new U. S. Gauge catalog. 102 pages. Packed with facts about gauges, gauge manufacture, gauge movements. Designed especially for quick reference, ease in ordering. Your name on your business letterhead will reserve your copy of this catalog.



WATCHMAKERS' ACCURACY comes closest to describing the fine, close-tolerance work turned out by the U.S.G.'s automatic screw machines.

UNITED STATES GAUGE

DIVISION OF AMERICAN MACHINE AND METALS, INC.

SELLERSVILLE, PA.

Manufacturers of Pressure, Temperature, Flow, and Electrical Measuring Instruments

U.S. INSTRUMENTS Tell The Truth

USG

H. A. Malcom, formerly assistant general sales manager, has been appointed general sales manager of Airtemp Division, Chrysler Corp.

Mr. Malcom has been with Airtemp for five years and has held several sales executive posts. He was regional sales supervisor in charge of the southern half of all U. S. markets before he became assistant sales manager. As general sales manager, he will now administer the entire post-war sales program on Airtemp's "triple line" of air conditioning, heating and refrigeration products.

●

G. C. Davis has been appointed chief engineer of Lynch Mfg. Co., Defiance, Ohio, manufacturer of Par refrigeration equipment. He will coordinate design and manufacturing efforts to facilitate an expanded production program, as well as laboratory work to improve the company's equipment and give engineering assistance on application of this equipment.

Mr. Davis has been identified with the refrigeration industry for nearly 18 years as service engineer, general experimental engineer and manufacturing consultant. Prior to joining Lynch he was engineer on the manufacture of high precision war products.

●

William J. Peltz has been named general production manager of the refrigeration division of Philco Corp., announces W. Paul Jones, vice president in charge of the division.

Mr. Peltz joined Philco in 1925, and since 1942 has been production manager of the radio division.

●

J. C. Moore has been appointed works manager of Dole Refrigerating Co., Chicago. For the past seven years he was with the Airplane Division of Curtiss-Wright Corp.

●

K. G. Baker has returned to the Indianapolis office of Wagner Electric Corp. after more than three years overseas service with the Army. A veteran of both World Wars, Mr. Baker served with the 32nd Division in World War I; in the war just ended, he enlisted April 5, 1942 with a rank of captain and advanced to that of lieutenant colonel, serving both in this country and in North Africa.

His record with Wagner dates back to March 1, 1929, when he became a sales engineer in the Cincinnati office. In 1931 he was transferred to Indianapolis, his headquarters until he entered the armed services.

●

Norman C. Honecker has joined the staff of A. E. Borden Co., Boston jobber, as refrigeration engineer and sales representative. Formerly he had been associated with Buffalo Forge Co. for five years and with Fedders Mfg. Co. for 12 years. At Fedders, he was engaged in laboratory research and development on expansion valves, unit coolers and gravity coils, later taking charge of Fedders' Boston factory branch

For the Borden firm, Mr. Honecker will travel the Maine and New Hampshire area and a portion of eastern Massachusetts.

●

S. D. Mahan has been appointed vice president of Crosley Corp. and general sales manager of the manufacturing division. Under his direction will come all commercial activities, including export and domestic sales, advertising and service.

Mr. Mahan came to Crosley in 1943 after two and one half years with the U. S. Treasury Department as director of advertising and promotion for the War Bond program and as associate national field director in charge of all War Bond and Stamp sales through retailers and the newspaper boys of the nation.

He has spent over eight years in the electrical appliance field, first as merchandise advertising and promotional manager and later as general advertising manager of Westinghouse. Previous to that he was for 12 years in advertising agency work.

●

Robert E. Mercer has been appointed product director of Monitor Equipment Corp., New York City. Mr. Mercer will serve in a liaison capacity as active contact between Monitor's home office and the 24 different manufacturing plants now engaged in producing the Monitor line.

Mr. Mercer formerly was sales manager for Merchant & Evans Co., and Brunner Mfg. Co., and most recently was manager of the war products and aviation division of White-Rodgers Electric Co., St. Louis, where he worked closely with manufacturers of various technical products.

●

R. E. Krumm, formerly a member of the war contracts department of Frigidaire Division, General Motors Corp. has returned to the

Continued on page 47

no defrosting

They're asking for it EVERYWHERE!

it's a DUAL-TEMP

. . . the 2-in-1 Refrigerator

No Defrosting! Mister, there's *sales magic* in those two words! Women everywhere are saying, "I want the refrigerator that features 'No Defrosting.' " Just pick *any* woman prospect, and say, "This is Admiral Dual-Temp, with the huge moist-cold compartment that *never* has to be defrosted." You can bet she'll be interested. Then tell her about other Dual-Temp features such as a roomy built-in freezing locker that really quick freezes and stores up to 2 bushels of frozen foods for months—no need for covered dishes—Sterilamp protection against bacteria and mold—lots more room for foods. She'll be more than interested . . . you can chalk up a sale! Better get in touch with your Admiral distributor *today.*

Admiral Corporation
Chicago, 47

REMEMBER!

only... Admiral

CAN BUILD A DUAL-TEMP

M-M-M... A Stick-

A general view of the processing operation at Checker Bar Ice Cream Co., showing freezing, bagging and packing crews at work.

. . . A drink on a stick, that is—and modern refrigeration methods play a big part in both processing and storage. Here's another "Sales Idea"

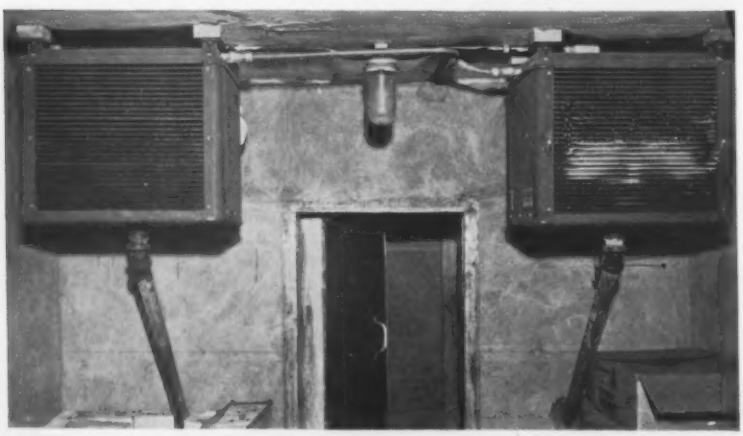
ONE business that has come a long way in the last few years is the "drink on a stick"—the business of supplying frozen fruit-juice bars, ice cream bars, and other confections to help satisfy America's sweet tooth.

America loves ice cream bars and other frozen confections, and in the larger cities organizations of considerable size have been developed to fill this ever-growing demand. How well these organizations are able to meet the demand, and to build their volume of sales, depends to a large extent on their awareness of refrigeration equipment and its ability to help them with their production and storage problems.

One firm that has adopted thoroughly modern refrigeration equipment for both the production and storage phases of its operations is the Checker Bar Ice Cream Co., Cleveland. The equipment which serves both of these needs was supplied by the Allied Refrigeration Engineering Co., Carrier commercial refrigeration distributor.

The Checker Bar Company, in addition to supplying a goodly share of the regular confectionery trade in and around Cleveland, also maintains concessions in the public parks and playgrounds throughout the city, and services the requirements, in large measure, of the city's stadiums and other sports centers. Thus, its volume of production is sizeable and efficient refrigeration is essential in enabling it to keep pace with demands, especially during the hot-weather months when sales are at their peak.

Refrigeration equipment performs two important jobs for the company:



These two blower-type units keep the holding room at temperatures from —10 to —20°. Water defrost system is used.

p Job!

The freezing operation starts when the molds are placed in one end of the brine cooler cabinet.

(Above) The frozen bars are taken out of the cabinet, and immersed in hot water to free them from the molds.

(Below) Final step in the processing of the bars is shown here, where they are bagged, boxed and readied for storage.

one in the actual preparation of the product itself, and another in the storage of the product after production until it is required for sale. The equipment works the year around; in the warm months, it enables constant operation to meet peak demands, and in the winter months, when sales naturally are lower, it enables the company to run off enough merchandise to last for perhaps several weeks, store it, and parcel it out in line with requirements.

Initial use of refrigeration is in the production of the "popsicle" and ice cream bars. The brine cooler cabinet in which this is accomplished is approximately 18 feet long, 4½ feet wide and 3 feet high, with the top of the cabinet exposed. The cabinet is equipped with approximately 800 feet of 1-inch cooling coil; cabinet walls have 8 inches of cork-board insulation. About 400 gallons of calcium chloride brine is used in the operation.

The coil battery is located about 18 inches from the bottom of the cabinet. Directly over the coils a baffle plate consisting of ½-inch flat iron stock is installed as a means of obtaining proper circulation within the cabinet. This plate covers the entire inside area of the cabinet, with the exception of 6 inches on each side, to govern the brine flow.

One end of the brine cabinet is equipped with a special propeller-type circulator, which is used to keep the brine in continuous motion during operation of the unit. Constant, positive circulation of the brine solution is an important factor in reducing the time required to freezing the popsicle or ice cream bar mixtures.

Brine temperature is maintained at an average of –20° F., employing a refrigerant temperature of approximately –25° F. Freon-12 is the refrigerant used in the system.

Design of the brine cooler cabinet is such that it will handle about 7 tons per hour at a –25° refrigerant temperature. The brine circulator is driven by a ½ H. P. motor, installed on one end of the cabinet.

A high capacity heat interchanger has been installed to increase the capacity of the unit. The brine is connected to the two 7½-H. P. Carrier units, connected in parallel. During periods in which the unit is in operation, both condensing units may

Exterior view of holding room, insulated with 8 inches of corkboard. Shown on door panel is warning signal, which denotes any interruption in normal operation of the system.

be called into service, but during in-between periods a single condensing unit can take care of the cooling requirements. Both condensing units are equipped with oil separators, suction line strainers, driers, and "liquid eyes", to make servicing of them as rapid and efficient as possible.

Operation of the condensing units is controlled by a thermostat, the bulb of which is inserted in the brine solution, operating at a 2° F. temperature differential. Installed in the liquid line is a solenoid valve, to prevent flooding of the coil with refrigerant during the "off" cycle. The latter is connected in parallel with the motors.

The brine cabinet is equipped with four steel tracks, which are used to carry the trays of popsicles and ice cream bar mix during the freezing operation. The mix, which is usually prepared a day in advance of actual use, is stored in the anteroom of the storage cooler, where it is brought down from room temperature to a temperature of from 36 to 38° F. over night.

In the preparation of the frozen bars, the mix is poured into molds, which are then inserted in the brine cooler unit. Each container has 48 molds of 4-ounce capacity. Sticks are inserted into the mixture by means of separate devices which fit on top of the molds containing the mix to be frozen.

The container is then placed on one of the four tracks at the lower end of the brine cabinet, and is moved down to the other end of the cabinet progressively as a new "line" of trays loaded with the popsicle or ice cream bar is inserted. Originally the trays had to be shoved down the line by hand, but recently an automatic device has been installed to do this part of the job, so that, except for filling and unloading the trays, the entire operation is semi-automatic.

Each track—there are four of them—will hold seven loaded trays, so that the capacity of the cabinet is 28 trays at one freezing. Working at capacity, the cabinet can handle three runs per hour, or a total of 84 trays of mix. At 48 molds per tray, that gives the plant a total capacity of something over 4000 popsicles or ice cream bars per hour. The operation is as simple as this: trays are loaded in at one end almost as rapidly as they can be filled, and move down the line as trays are removed from the other end. By the time they reach

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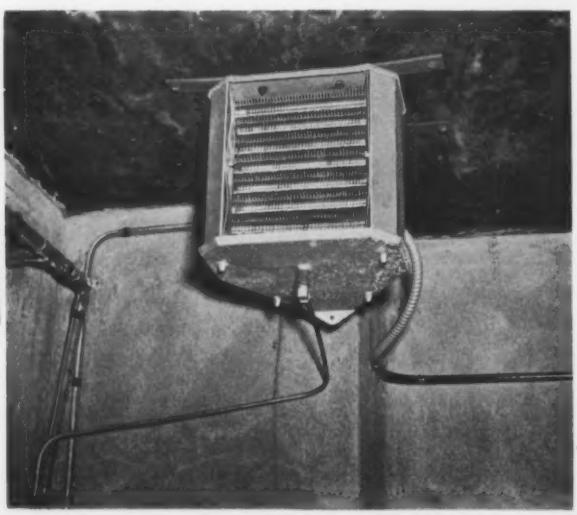
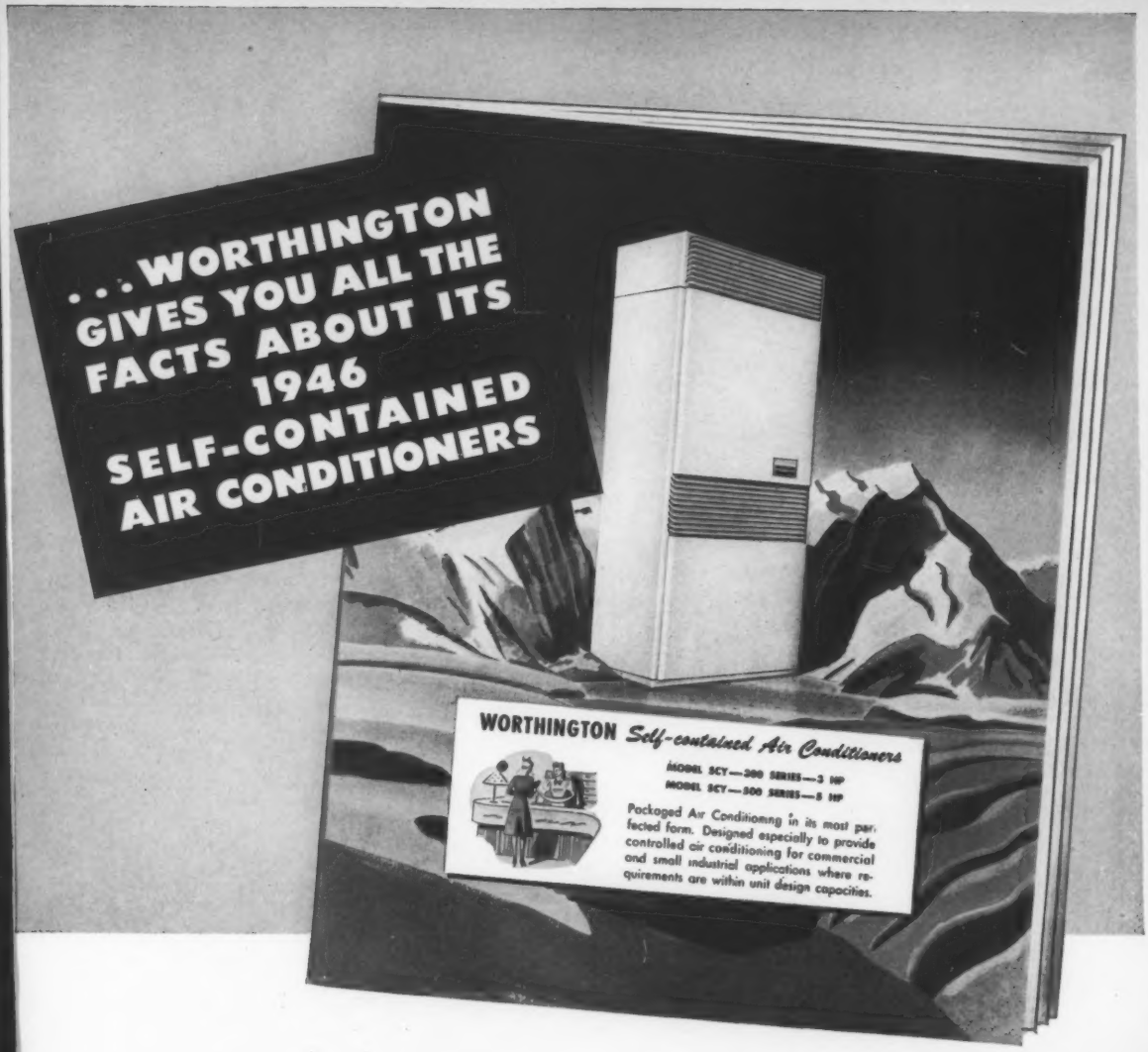
(Left) Interior of holding room, showing part of stored merchandise.



(Right) This blower-type unit serves the anteroom of the cooler, where mix is stored prior to being used.


. . . WORTHINGTON GIVES YOU ALL THE FACTS ABOUT ITS 1946 SELF-CONTAINED AIR CONDITIONERS
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WORTHINGTON

AIR CONDITIONING

WEATHERHEAD CANADIAN PLANT BROADENS SCOPE

Effective at once, standard Weatherhead parts for the Canadian refrigeration and industrial fields will be made and shipped to the Canadian trade by Weatherhead Co. of Canada, Ltd., St. Thomas, Ontario, it has been announced by Weatherhead Co., Cleveland manufacturer of flexible hose and hose assemblies.

"This is in line with our policy to make the Canadian company entirely self supporting and supply additional employment for Canadian workmen," said A. J. Weatherhead, Jr., president of the parent company.

All exports to any of the countries of the United Kingdom also will be manufactured and shipped from the St. Thomas plant.

BUENOS AIRES DEALER PREDICTS BIG MARKET

Refrigeration and air conditioning equipment has excellent export possibilities in Argentina, reports Ernesto Lix Klett, president of Carrier Lix Klett, S. A., Buenos Aires.

"All specialized equipment is in demand in the Argentine," Mr. Lix Klett stated. "Shipments of manufactured products were light during the war years, and Argentina's highly developed industries will require increasing quantities of such equipment."

Studying a climate map of South America, Ernesto Lix Klett, Jr., of Buenos Aires, points out home territory to his father, president of Carrier Lix Klett, S. A., in the New York offices of Carrier International.

• • •

Carrier Lix Klett, S. A., has bulked large in the promotion of air conditioning in the Argentine. In 1933, the company installed Carrier equipment in the world's first completely air conditioned apartment building. That same year, it also completed an installation in a 32-story apartment building, still the largest fully air conditioed apartment house in the world.

Buenos Aires also boasts the world's largest entirely air conditioned bank building, a Carrier Lix Klett installation. A new addition to the world-famous Plaza Hotel, most of Argentina's important hotels and restaurants, and virtually all hospital operating rooms, are Carrier air conditioned by Lix Klett.

"Public response to these installations indicate wide acceptance of air conditioning," Mr. Lix Klett declared. "I believe all kinds of air conditioning, both portable and central station, have a broad field of potential users."

HUSSMANN EXPANDS PLANT

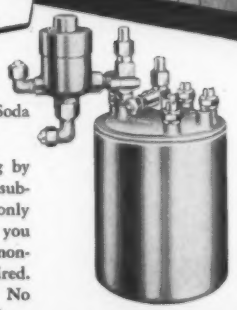
Hussmann Refrigeration, Inc., St. Louis, is constructing two additions to its plant. One is a two-story building which will incorporate all of the plant's wood working facilities. The other is an addition to the metal working and porcelain plant. All in all, the additions will give the company 100,000 sq. ft. more floor space.

Instantaneous Cooling . . . Accurate Temperature Control . . . Unique Compactness of Design . . . and Maximum Operating Efficiency!

These are the outstanding advantages offered by TEMPRITE Soda Fountain and Beverage Coolers.

Operating on the exclusive TEMPRITE principle of cooling by direct heat transfer, corrosion-resistant stainless steel coils are submerged directly in the liquid refrigerant. This arrangement not only makes possible a unique compactness of design but also assures you of maximum cooling efficiency. Cools 1, 2 or 3 carbonated or non-carbonated beverages only as they are used and at the rate required. No constant drain on the capacity of your condensing unit. No resulting interference with the balance of your cooling system!

TEMPRITE Soda Fountain and Beverage Coolers are now available for your new or existing installations. Write for descriptive literature today.



6 Models available to meet your particular requirements for light, medium and heavy duty dispensing applications.

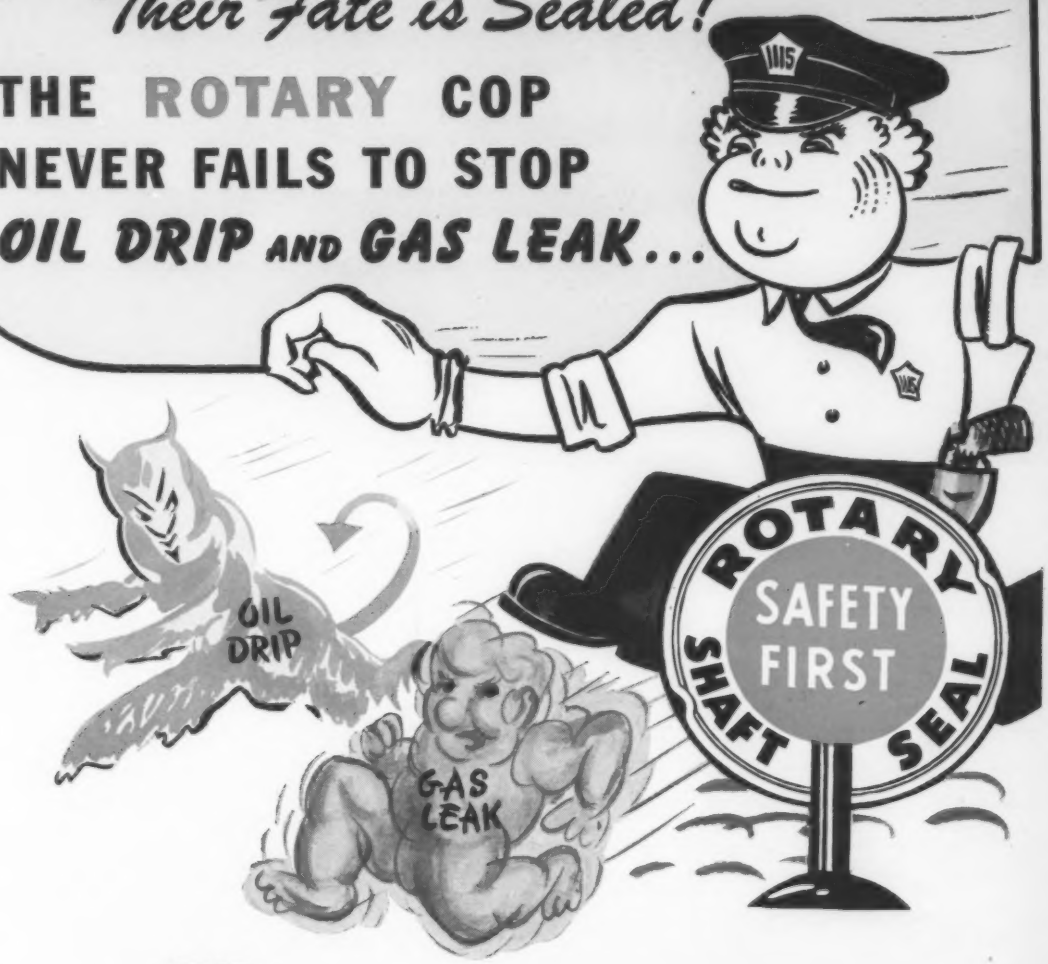
TEMPRITE PRODUCTS CORP.

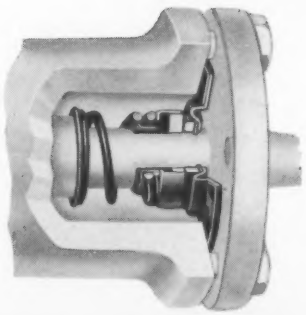
Originators of Instantaneous Liquid Cooling Devices

411 PIQUETTE AVENUE DETROIT 2, MICHIGAN

Their Fate is Sealed!

THE ROTARY COP NEVER FAILS TO STOP *OIL DRIP AND GAS LEAK...*





ROTARY SEAL Replacement Units are available for over 752 Models of Refrigeration Assemblies! No re-working of compressor parts necessary.

The long arm of the law captures *Oil Drip* and *Gas Leak* again—and Rotary Seal replacement units hit a new high in popularity among service men who demand the best.

The smiling Rotary Cop is your guarantee of a seal which is the acme of sturdy construction and embodies the time tested principles assuring complete satisfaction in both domestic and commercial applications. Remember—ROTARY SEALS may be obtained at *all* leading jobbers—there is no shopping around to do. You can get *what* you want *when* and *as* you want it.

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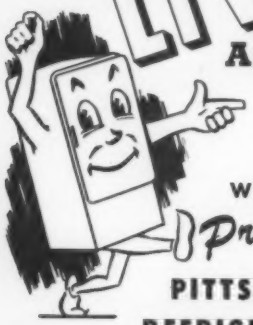

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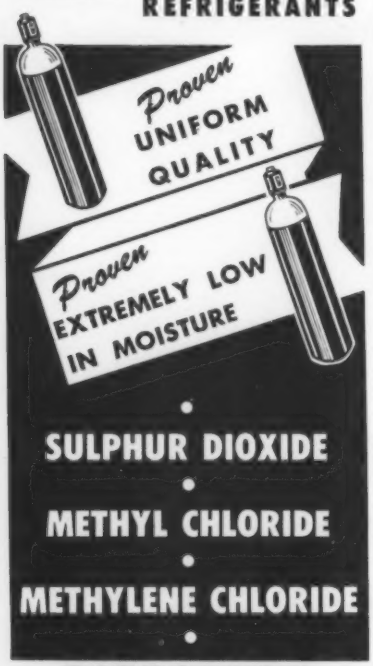

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SALES AGENTS FOR
KINETIC CHEMICALS
FREON 11 FREON 12
FREON 22

SODA FOUNTAINS . . .
Continued from page 25

less tendency to frost back or sweat the suction line.

Also in 1939, a check valve was added to the suction line from the ice cream section evaporator, to prevent condensation in the ice cream evaporator of the warmer refrigerant vapor from the water cooling section. At the same time this made the system more responsive to water load conditions by causing any increase in back pressure due to water load to be transferred to the low pressure control, cutting-in the condensing unit sooner than with the earlier system. The result of both of these changes was a decrease in total running time per 24 hours, with a consequent lower operating cost for the fountain and improved operating characteristics.

Control of Temperatures

On busy installations, two electrical switches control the fountain temperatures (Fig. 4). A temperature control is used to control the ice cream temperature, while a low pressure control is set to operate on the water bath section. The temperature control results in positive control of the ice cream section temperature independent of the water load conditions and low pressure switch settings. The temperature control generally used on this fountain was a Frigidaire model 1122047 control.

On installations with medium to light load conditions, a single temperature control (no low pressure control) will handle temperature regulation of the fountain very satisfactorily simplifying installation and hook-up.

A small duct in front of the ice cream evaporator made it possible to locate the temperature control in the basement near the condensing unit. By drilling a small hole in the floor in line with the duct, the capillary bulb may be slipped up through the floor and duct and inserted in the well in the ice cream evaporator.

Simple Adjustment Method

Since fountains and valves were not given factory adjustments until about 1938, a simple method of obtaining adjustments on the early "Lifetime" fountain refrigeration systems in a minimum of time is outlined in the following:

With the ice cream evaporator valves (and salad unit, if connected to the same condensing unit) closed:

1. Add 3 lbs. of F-12 to the condensing unit for the water bath evaporator, plus ½ lb. of F-12 for every 10 ft. of ⅜ in. liquid line to compressor and 1/10 lb. of oil for every 1 lb. refrigerant added.

2. Turn the TRV-20 adjustment down to position 4 or thereabouts, to insure that this valve stays open during the adjustment of the TEV. Start the condensing unit. Set the TRV bulb approximately ½ in. from the front evaporator.

3. When the water bath in the water cooling section has pulled down in temperature so that an ice formation is obtained on the rear tubing, adjust the TEV so that ice will form clear to the TEV bulb which is clamped to

"Acme Refrigerator Service? Something's Wrong With My Refrigerator—It Won't Keep Wine at Room Temperature."

the front tubing near the top of the coil. Opening ("raise") the TEV will cause ice to form on the front tubing.

Don't Force Adjustment

Caution: The TEV is wide open when the clip above the adjusting nut is snug against the nut. Do not force this adjustment further, as this clip will jump off. If the clip jumps off, close the valve completely by turning the adjusting nut counterclockwise ("lower") and replace the clip.

4. When this adjustment has been obtained, turn the TRV-20 back to between position 2 and 2-¼.

5. Open the valves on the ice cream

evaporator (and salad unit.)

6. It will be necessary to check the adjustments within two or three days and readjust the TEV and TRV as necessary to obtain an ice formation on the water bath front evaporator.

The final adjustment of the TRV will be somewhere between 2 and 3. The TRV adjustment may stick, due to ice forming on the body of the valve. Do not force the adjustment, but stop the condensing unit and melt the ice off the valve body with cool water to warm the valve and free the adjustment. After readjusting the TRV, start the machine again.

It is most important that the proper amount of oil is added along with the refrigerant at the time of installation. If the service engineer neglects to do this, the oil which circulates with the refrigerant will be taken from the compressor, leaving it short on oil, resulting in compressor or seal trouble.

Why Close Valves?

There are two reasons why we recommend leaving the ice cream evaporator valves closed until the ice formation has been obtained in the water bath section. The first is to have the entire condensing unit capacity available to pull down the water bath section and form ice rapidly, thereby obtaining these adjustments in the shortest time. The second reason is that cooling the water bath down to low temperature insures the thermostatic charge in the capillary tube element of the TRV-20 control remaining condensed in the bulb. If the charge condenses in the bellows at the valve due to this latter becoming colder than the bulb, the valve will close off and become erratic in operation.

There is a tendency in Freon systems to frost back during the long first pull-down period. This may frost up the TRV control and would tend to cause the thermostatic charge in the capillary system to transfer to the bellows, which would then become the control point. If the charge does become transferred, merely warm up the TRV bellows by placing your warm hand or a warm cloth around the bellows of the valve to drive the charge back to the bulb in the water bath. The bulb on all vapor-charged elements must always be located at a colder point than the bellows, so that the bulb remains

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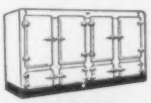
RETAIL surveys show the public purchases much more "brand-name" merchandise than any other kind. That's one important reason why Gold Bond Zerocel is your best low-temperature insulation buy. It's a sister product of famous Gold Bond Rock Wool Home Insulation preferred by architects, builders and home-owners for years. That's why it's like meeting an old friend when your customers see the Gold Bond stamp on your Zerocel-insulated products. (Free Zerocel stickers for appliances and job signs for installations are available on request.)

Inch for inch Zerocel is one of the *most efficient insulators for practically every kind of low-temperature installation.* It has a thermal conductivity (or "K" factor) of only 0.24 Btu. at 60°F. mean temperature. To reduce the refrigeration load (and size of your compressor) to the lowest possible minimum, you can install Zerocel much thicker than ordinary insulations for the same or less money.



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Zerocel is manufactured to U. S. Dept. of Commerce Standard CS-105-43. Samples and literature on request.

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Continued from page 43

the control point for the valve.

The low pressure switch should be adjusted to cut-in at 35 lbs. and to cut-out at 8 to 10 lbs. The electrical control hook-up is shown in Fig. 3.

* * *

"Lifetime" DX Refrigeration System 1940 thru 1941

In 1940 a substantial improvement was introduced on the "Lifetime" fountain refrigeration system through the development of the direct-expansion type DX evaporator for use in place of the low side float boiler. The DX evaporator was completely engineered and developed in the Liquid Carbonic engineering and research laboratories. Besides eliminating the various troubles characteristic of low side floats, the DX evaporator substantially raised the operating back pressure because of efficient design and higher rate of heat transfer. This resulted in increased condensing unit capacity with reduced running time and lowered power consumption.

The DX evaporator (Fig. 5) is made of ⅝ in. copper tubing especially formed and wound in a compact coil attached to a header plate and interchangable with low side float evaporators.

An improved design was also introduced in the water cooling section by a continuous loop type cooling coil, likewise increasing the capacity and efficiency of the water cooling section.

The "Lifetime" DX soda fountain refrigeration system (Fig. 6) consists of three direct expansion tube-type evaporators, one in the syrup rail, one in the water cooling section, and one in the ice cream section.

Three refrigerant valves are required to control the refrigerant flow and water bath ice formation—a TEVF207 (Automatic Products No. F207, orifice 0.045 inches), a TRV20 (Frigidaire) on the syrup rail-water cooling section evaporators, and a second TEVF207 (orifice 0.045 inches) on the ice cream section evaporator.

Ice Cream Section

The ice cream section is refrigerated by a direct-expansion DX type evaporator with the refrigerant flow controlled by a TEVF207 (Automatic Products) thermostatic expansion valve installed at the front of the evaporator. The valve control bulb is located in a horizontal well which is silver soldered to the top evaporator coil. Fill this well with vasoline.

The TEVF207 has a liquid charged thermostatic element which eliminates any possibility of erratic operation as might occur due to transfer of the thermostatic charge in the case

Continued on page 46

Airserco MODEL E-J
UNIT STARTER and ANALYZER

That quickly restores to operation any HERMETIC FRIGIDAIRE, GIBSON, GRUNOW, NORGE, COLDSPOT, GENERAL ELECTRIC, AND OTHER UNITS REQUIRING EITHER SPLIT PHASE OR CAPACITOR STARTING CIRCUITS.

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Major Arthur S. Alter, vice president and manager of the radio and appliance division of the Harry Alter Co., accepts delivery of the first 1946 Ford in the the Chicago area from Ford dealer Harry M. Lucas. Major Alter has just returned from Germany.

Lynch USES MUELLER BRASS CO. VALVES AND FITTINGS EXCLUSIVELY IN THE MANUFACTURE OF THE PAR CONDENSING UNIT.
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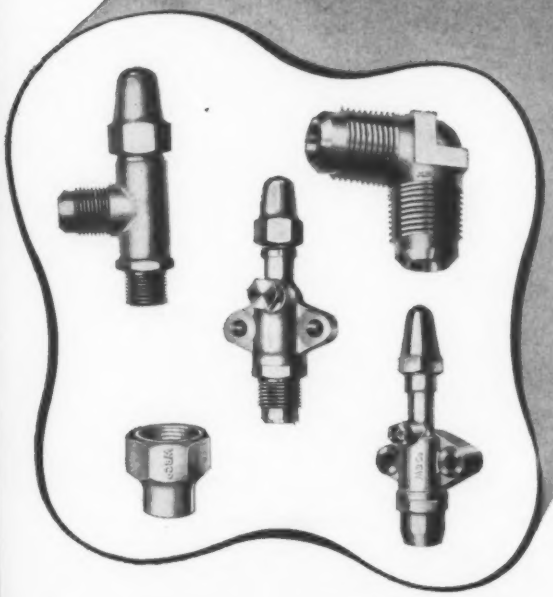

PAR Condensing Units are designed and manufactured on the same principles as fine automobile motors, with such outstanding features as drop forged steel crankshafts, hardened and lapped to mirror like surface . . . Oilite crankshaft bearings with a high degree of porosity to insure constant lubrication . . . Ring type pistons, two compression and one oil ring, hand fitted to each piston. These and many other features as oversized air-cooled condensers and large capacity receivers assure you of economical, efficient refrigeration and extra years of trouble-free service.

All materials used in Par Units are the best from the standpoints of quality and performance, that money can buy.

BUILT-IN QUALITY TIME-TESTED PERFORMANCE

Mueller Brass Co. Valves, fittings and accessories are sturdily and dependably built. They have a well-earned reputation for built-in quality and time-tested performance.

The Mueller Brass Co. line of refrigeration products is exceptionally complete, and all products are designed and manufactured specifically for mechanical refrigeration work. THEY ARE USED BY ALL OF THE LARGEST MANUFACTURERS THROUGHOUT THE UNITED STATES.

MUELLER BRASS CO. PORT HURON MICH.

Continued from page 44

of gas-charged power elements.

The temperature of the TEVF207 valve body, or locating the valve in a cold spot, does not affect the valve operation in any way. This valve as used on Liquid fountains is factory adjusted to a superheat setting of 7°, which is slightly lower than the 10° standard setting. It was found 7° gave slightly better operation. In most cases it will not be necessary to re-adjust this valve in any way at the time of installation.

Be sure that both the expansion valve and switch control bulbs are pushed all the way in to the bottom of the bulb wells on this evaporator.

The syrup rail is refrigerated by a single loop of ½ in. tubing which is connected in series with the water cooling section evaporator, this latter being made of ⅝ in. tubing. The refrigerant flow is controlled by a thermostatic expansion valve (TEVF-207), the refrigerant passing first through the syrup rail evaporator, then to the water cooling section evaporator, and out through a thermostatic regulating valve (TRV20), which controls the ice formation.

The TEVF207 control bulb is clamped tightly to the fourth coil from the top at the front side, which gives one drier loop before leaving this evaporator. The TRV20 bulb is clamped in a stainless steel clamp attached to the sixth coil from the top, also at the front side. This clamp should be horizontal, and the final TRV adjustment will be at approximately 3, to maintain the desired water cooling section ice formation.

The TRV20 has to be set colder on these DX fountains because the higher operating back pressure has resulted in a shorter condensing unit "on" cycle. This makes it necessary to build back the ice formation in a shorter time, requiring a wider opening or colder setting on the TRV.

Don't Overfill Section

Ice should form on all coils of this evaporator. In filling this water cooling section with water at the time of installation, care should be taken not to fill the section too full.

Fill with water to the level of the second block tin loop from the top on the water cooling coil, so that when the ice has built up on the evaporator coils, raising the water level due to the expansion of the water on freezing to ice, the top block tin loop will just be covered with water. If filled too full, ice may build up under the compartment cover plates and lift the plates.

Both the TEVF207 and the TRV20 are accessibly located in the dry storage compartment.

A check valve is installed at the ice cream evaporator before its suction line tees into the suction line from the water cooling section. This check valve prevents the warmer refrigerant vapor from the water cooling evaporator condensing in the cold ice cream evaporator during the "off" cycle, which would result in a frost back at the start-up of the next "on" cycle.

(Further DX refrigeration system installation and service pointers will follow in next month's issue.)

ADD SURPLUS PROPERTY

Hitler had everything but peace of mind at his Berchtesgaden retreat. Among other conveniences was a completely equipped electric kitchen.

With many of our friends returning to their civilian activities, it is particularly appropriate in this year of victory to extend to all the Season's Greetings and our best wishes for a New Year of Peace, Happiness and Prosperity.

Highside Chemicals Co.

195 VERONA AVE. NEWARK 4, N. J.

ABOUT PEOPLE . . .

Continued from page 34

appliance sales department and will specialize in the development of merchandising type dealer outlets. **D. C. Bowell** has also joined the appliance sales department and will devote his efforts to Frigidaire's replacement sales program.

●

A. Gordon Wootton, former chief of refrigeration and air conditioning section of WPB, has returned to Seeger-Sunbeam Corp., as manager of the southeastern territory, with headquarters at Atlanta, Ga.

Mr. Wootton has been with Seeger since 1928, when he was employed by the New York office. In July, 1942, he left the company to go with WPB.

His territory includes 12 states, extending from Virginia to Louisiana. He will be in charge of all dealers and distributors in this area.

●

Paul K. Ray has been appointed advertising and sales promotion manager of Carrier Corp. and **Homer A. Eastman** has joined the company's copy staff.

Both Mr. Ray and Mr. Eastman recently came to Carrier from Sears, Roebuck and Co., Chicago. Mr. Ray had previously been with Addressograph Corp. and head of the creative department of Manz Corp.

●

John R. Hertzler has been elected a vice president of York Corp. Mr. Hertzler who has been with York since his graduation from Lehigh University in 1927, was recently released to inactive duty by the Navy. He had been in service since 1942, and held the rank of lieutenant commander.

After completing York's graduate engineering course and spending some time with the company's field organization, Mr. Hertzler was recalled to the factory to assist in the organization and supervision of York's air conditioning department. He was promoted to assistant general sales manager and later general sales manager of the corporation. In this capacity he had direct supervision of the full distribution of all York products, both at the factory and in the field.

●

Leonard C. Bastian, who for several years prior to the war was staff standardization engineer of the Air Conditioning and Refrigerating Machinery Association, Washington, D. C., has rejoined ACRMA following his release from active duty as a lieutenant commander in the Civil Engineer Corps of the Navy.

●

Margaret E. Bicknell has been appointed director of the Deepfreeze home economics laboratory. She has been associated with Long Island College Hospital as instructress of dietetics; with St. Jerom Hospital, Batavia, N. Y., as chief dietician, and with Buffalo Niagara Electric Corp. as director of home service. She is a member of the American Home Economics Association, president of the Western New York State Home Economics Association, and a member of the League of Advertising Women. She has conducted research in quick freezing, and has written several instruction books on this method of food preservation.

In other Deepfreeze appointments, **George W. Miller** has been named chief metallurgist and **R. H. Fredberg** has been named sales manager of the Cleveland district.

●

J. J. Donovan has been appointed eastern divisional manager of Airtemp Division, Chrysler Corp. He will coordinate all merchandising effort in the Boston, New York, Philadelphia and Washington, D. C. regions, included in the eastern division. He formerly was New York regional manager for Airtemp. **Robert Friedel** succeeds him in his former position.

●

F. A. Haag has been appointed sales manager of the refrigeration division of Salem Engineering Co. Since 1940, Mr. Haag has been with Kold-Hold Mfg. Co. as salesman and sales manager; previously he was employed by Fedders Mfg. Co. in engineering and sales, and at one time was manager of the company's New York office.

●

P. W. Budworth has been named director of government contacts for Frigidaire Division, General Motors Corp. Mr. Budworth has been with Frigidaire as a salesman, dealer and sales manager since 1926, specializing in commercial refrigeration.

During the war Mr. Budworth was assigned as a government representative in Washington for the War Contracts Division of Frigidaire. He retained this position until his present appointment.

●

N. M. Dunning has recently been appointed factory representative for Superior Valve & Fittings Co. and will be responsible for sales in the territory including the states of Kentucky, West Virginia, Ohio, eastern Michigan, western Pennsylvania, western New York and eastern Canada.

●

Comm. George Gellhorn, who left Worthington Pump & Machinery Corp. on January 1, 1942 for active duty in the U. S. Navy, has been released to inactive status and has returned to resume his position as export manager with offices at Worthington's Harrison works.

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OIL SEPARATORS

Aminco Oil Separators protect compressors by maintaining correct oil level in crankcase and by excluding oil from refrigerant stream they enable coils, condensers, valves and dehydrators to function most efficiently.

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Employed by.....R22

HERE TODAY . . .

Continued from page 23

have its own equipment.

Garfield Voget is an enthusiastic locker owner and a student of food processing. Mayor of Hubbard, Ore., a town with no debts, he was formerly a secretary in the Oregon Locker Owners Association.

Besides the new freeze room being constructed he is also building a second smoke room where pork and turkey meat will be smoked. Heat for the cooking of the meat is supplied by gas and the wood is used only for smoke—not for heat. This permits even cooking and exact regulation of temperature.

In this connection, Mr. Voget has produced a new product for this section of the country—a product which has a high demand by roadside inns, downtown restaurants and by the farmer, too. This is smoked turkey. In the smoking process Mr. Voget bakes the turkey so that it is ready to eat simultaneously with the smoking process.

A New Delicacy

After the turkeys are smoked they go into the locker rooms for storage. A restaurant owner can buy these turkeys and have them ready for sandwiches by sharpening his knife. Farmers can store turkeys for their own use and get them back when they want them, ready to eat. The housewife can prepare her Christmas or Thanksgiving turkey a month in advance and be sure of having it ready at the right time—or if company doesn't come, she can leave it in storage.

New among storage items is bread dough. Some housewives nearby now make up enough dough for several bakings and store the surplus in their lockers to be used whenever they get ready for it. Most of them say it improves the quality of the home-baked bread.

Unusual, however, was the storage of stale bakery bread in a locker. A large quantity of stale bread had been bought and some of it was stored in the owner's locker. Two loaves were forgotten and remained in the locker for six months. When taken out the bread had resumed a fresh appearance and taste. More investigation is being conducted in this direction.

The Voget plant is completely equipped with meat saws that are power operated and plenty of overhead track for handling beeves and hogs. Customers drive into the enclosed driveway into the middle of the plant and there the meat is unloaded and weighed and goes into the holding room. Complete processing, smoking and pickling facilities are available, some of them special processes evolved by the plant's operator.

From the refrigeration man's angle, the point is that food processing never stands still; it continues to progress and as it moves ahead it involves additional facilities and equipment which the alert dealer can supply.

This Farmer's a User

Mr. Bradley has installed several refrigeration plants for the use of farm owners. In one installation in particular, a progressive farmer bought 90 acres of almost worthless land, and converted it into the best type of farming property by use of modern methods.

He had Mr. Bradley install a complete refrigeration plant for storage of his meat and other produce. It consists of two rooms, the sharp freeze room (5x6 feet) operating at —6° F. and the processing room at about 32° F. The building was constructed of tile and brick and full 8-inch cork walls were used throughout, making for economical operation of the refrigeration equipment.

This was a low pressure installa-

"Oh boy! Imagine Lana Turner's refrigerator being out of order."

tion using methyl chloride. The farmer now raises more than 2,000 chickens and 5,000 turkeys a year, killing and storing at will and holding them for favorable prices.

He also raises a large amount of fruit and berries which he freezes; in slack times he allows his neighbors to use some of the storage area. Other farmers are watching this operation and are showing an interest either in a freezing plant of their own or large refrigerators.

This farm is now valued at $35,000, so the farmer by this method has increased the value of his property so greatly that his refrigeration equipment not only has not cost him any money, but has made him a large profit. This is the best type of selling point for other refrigeration dealers.

But not all is roses along the farm and locker front, as Mr. Bradley can testify. He made another installation for a farmer using a small high pressure system. Here the cooling water, which came from a dug well, contained a sediment that had the appearance of blue clay. While it did not affect the drinking quality or use of the water, it soon clogged up the condenser, plugging it tight so that Mr. Bradley had to go out and clean it out.

Soon after cleaning, it stopped up again. To end the stoppage once and for all, Mr. Bradley built a condenser out of large sized pipe and equipped it with flanges so that it could be easily dismounted and reconnected. Then he instructed the customer in removing the condenser and unstopping it, so that he could service this particular part of the job himself.

Revamping the condenser eliminated service complaints on this system. Mr. Bradley never hesitates to depart from the orthodox in order to solve a problem for a customer and insure that he gets reliable service from his equipment.

Next project in order for Jim Bradley is a new building for his shop. This new building will have the entire front built especially for the display of commercial refrigeration and allied food processing equipment.

Not all of his refrigeration jobs are for farmers. One now in process is for a large Portland restaurant. Here the problem is to buy on a surplus market and store for use. He is building a precooling room and a freezing room using low pressure equipment.

The restaurant owner formerly rented locker space, now he'll have his own equipment. He will buy the meat, fruit and berries at the most favorable market prices in large quantities, and hold it for re-use in his own refrigeration plant.

★ ★ ★

ANOTHER APARTMENT BLDG. TO USE HOME FREEZERS

Home freezers for the use of each tenant is a prime feature of the plan for the multiple-story apartment building to be erected at Sheridan Road and Fargo Ave. in Chicago by George S. Lurie.

This new dwelling unit will contain 80 unfurnished 3 to 5 room flats. The home freezers will be located in the basement.

★ ★ ★

Don't Forget—

You also get the famous DFN 3-WAY PROTECTION in

DFN

Non-Refillable Dehydrators

Remember—non-refillable dehydrators are used for "permanent" installation. That makes it important to get the 3-way protection of DFN Non-Refillable Dehydrators, namely: dehydration—filtering—neutralizing. This means more efficient protection for longer periods. And, best of all, it costs no more than other types. Full range of sizes for every need.

Sizes from 1/6 h.p. to 3 h.p. ratings. See your jobber, or write for details.

McINTIRE CONNECTOR COMPANY, 257 Jefferson Street, Newark 5, N. J.

Only the DFN SYSTEM DEHYDRATES FILTERS NEUTRALIZES

DEHYDRATORS • STRAINERS FILTERS • NEUTRALIZERS

● Back on a peace basis once more! That means the Aerovox line of motor-starting capacitors once again includes the widest selection of both exact-duplicates and those universal types that served so well during the war shortage. You can now get replacements exactly matching the units you're replacing — even to such details as the insulating jacket, as here shown. Yes, be sure to make it AEROVOX for those replacements—and you'll be getting just the right types for the right jobs.

● Ask Your Jobber . . .

Ask him for AEROVOX motor-starting capacitors. He either has them or can get them for you. Ask for the latest Aerovox Catalog. Or write us direct.

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INDIVIDUALLY TESTED
AEROVOX CORP., NEW BEDFORD, MASS., U. S. A.
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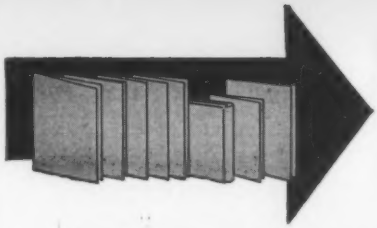

Useful Literature

The publications listed below are available to readers without charge. Simply list in the coupon at the bottom of this page the numbers of the items you wish to receive, and sent it to THE REFRIGERATION INDUSTRY, 812 Huron Road, Cleveland 15, Ohio. Your requests will then be forwarded directly to the companies concerned.

239—Flexible Tubing . . . A bulletin explaining the various properties and uses of Spiratube flexible tubing, which is said to be adaptable to a number of air handling applications. Available from Spiratube Division, the Warner Brothers Co.

240—Humidity Control System . . . A four-page bulletin describing the Kathabar humidity control system for small and medium industrial applications; describes Kathabar principle of operation. Available from Surface Combustion Co.

241—Shaft Seals . . . Price list and specifications on its models of compressor shaft seals, available from Temperature Control Devices. Lists 43 different models.

242—Farm and Home Freezers . . . Information on its complete lines of farm and home freezers, walk-in units, beverage coolers and milk coolers. Available from American Refrigerator & Machine, Inc.

243—Electric Water Coolers . . . An eight-page folder, issued by the Coolstream Corp., describing and listing various construction features of its newly designed line of electric drinking water coolers. Lists specifications of available models.

244—Flow Control Instruments . . . a four-page bulletin issued by Electric Power Equipment Co. on its "Thermotron" flow control instruments, just introduced on the market. Includes specifications, information and cutaway sketches showing construction details.

245—Farm Freezers . . . A new bulletin issued by Quillen Brothers outlining features of its initial post-war model of home freezer. Designed primarily as a hand-out piece for retail dealers.

246—Leather Packing Materials . . . a folder issued by Alexander Brothers, describing in detail the features of its leather packing materials which are available for various types industrial uses.

247—Tubing Fittings . . . A four-page bulletin issued by Gustin-Bacon Mfg. Co. describing its "Flexigrip" tubing fittings designed for use in refrigeration and air conditioning and other industrial fields. Exploded view shows features of individual parts; some of wide usage ranges also are illustrated.

248—Alloy Welding Chart . . . A new reference chart offered by Arcos Corp. on high and low alloy welding electrodes. Data includes tables on corrosion resistance, heat resistance, weld metal surfacing, etc. Chart is 20" x 30" for wall mounting.

249—Flexible Tubing . . . a bulletin issued by Arrowhead Rubber Co. to describe its "Airtron" material, fabricated of glass cloth and rubber, and said to have application in ventilating and air conditioning fields. Various features of the material are illustrated, and some of the products now employing Airtron are also listed in the bulletin.

250—Production Parts . . . An informative folder issued by Ex-Cell-O Corp. describing its facilities for manufacturing production parts and unit assemblies. Includes plant photographs showing machinery used in parts output.

MAIL THIS COUPON FOR FREE LITERATURE

Refrigeration Industry, 812 Huron Road, Cleveland 15, O.

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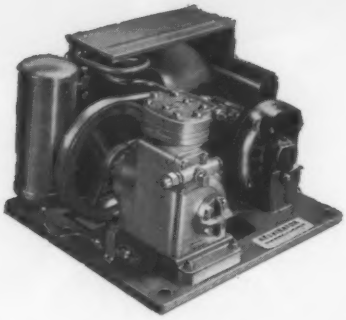
1-46

KELVINATOR CONDENSING UNITS



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50 DEPOTS CARRY COMPLETE PARTS STOCKS!

Kelvinator's warehousing system is convenient to *everyone!* And these 50 distributor and branch points stock Kelvinator Condensing Units and parts.

Production of Kelvinator Condensing Units is now confined to a streamlined group of models covering the needs of most commercial condensing unit buyers. With Kelvinator's greatly expanded facilities and new war-born production methods, this has made possible an entirely new sales-minded policy for merchandising Kelvinator Condensing Units... available now—and *competitively priced.*

NASH-KELVINATOR CORPORATION,
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BUY KELVINATOR FOR YOUR COMMERCIAL REFRIGERATION REQUIREMENTS

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CONDENSING UNITS OPEN AND SEALED

TEMPERATURE INDICATOR FOR FOODS PATENTED

A temperature indicator designed for packing with food to show whether it has been subjected, during either transport or storage, to temperatures which would cause spoilage has been patented.

The indicator consists of a sheet of paper, a portion of which is imprinted with an oil-soluble dye and the remainder with a suitable solvent melting at the desired temperature.

The sheet is enclosed in a transparent envelope. If the danger temperature is reached the solvent will melt, thereby dissolving a portion of the adjacent dye and leaving a stain on the paper.

FRIGIDAIRE division of General Motors Corp., in cooperation with 20th Century-Fox Film Corp., is sponsoring a new half-hour weekly series of radio dramatizations of movie shows on the Columbia Broadcasting System, beginning Sunday, Jan. 3, from 3 to 3:30 p.m. E.S.T. The program, "Frigidaire's 20th Century Air Theater," will originate from Hollywood, and will use the stories and talent of the movie studio.

M.A.D. HANDLES EXPORTS FOR SUPERIOR VALVE

Melchior, Armstrong, Dessau Co. Inc., has been appointed exclusive export representative for the line of refrigeration valves, manifolds, fittings, and accessories manufactured by Superior Valve & Fittings Co., acording to W. A. Siegfried, Superior sales manager.

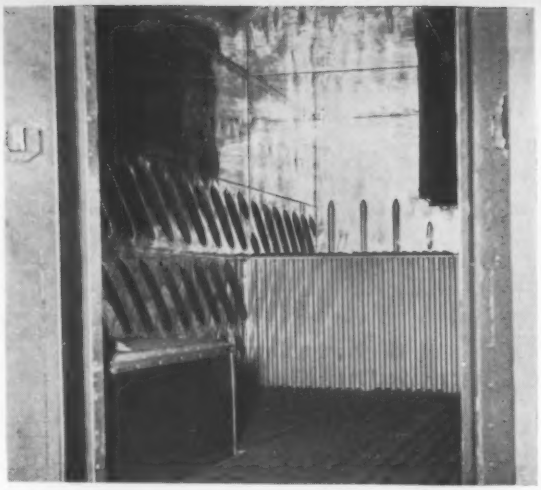
M.A.D., already well represented in South frica, South America, Scandinavia, Australia, New Zealand, Mexico, England, and Continental Europe, are continuing with the expansion of their export sales organization.

WILSON SUB-LETS FARM FREEZER PRODUCTION

Farm freezers of 15 and 25 cu. ft. capacity will be produced for Wilson Cabinet Co., Smyrna, Del., by Goodyear Aircraft Corp., Akron, Ohio, on a sub-contract basis, the Wilson company has announced.

All of Wilson's sectional type farm freezer models for remote installation, in sizes ranging from 22 to 120 cu. ft., will be produced at the Smyrna plants.

The company is scheduling shipments for the first quarter of 1946, based on starting production Jan. 1.



This view of the interior of the new light-weight refrigerated trailer recently developed for the Army QMC shows (at left) the diagonal beads used to direct recirculation of air.

REFRIGERATED TRAILER WEIGHT CUT IN HALF BY NEW DESIGN

IF aircraft engineers look at their wives the same way they look at a new airplane, they must run into a lot of trouble at home. For an aircraft engineer's main aim is to eliminate excess weight. Even one pound saved may be worth hundreds of dollars in added payload capacity during the useful life of the plane. This being the case, it wasn't surprising that the Army Quartermaster Corps, faced with the problem of cutting the weight of its standard refrigerated trailer in half, asked an aircraft manufacturer —Fairchild Engine & Airplane Corp. —to do the job.

Intended primarily for transporting frozen meat and C-rations, the Fairchild-designed experimental trailer, tested since last November, weighs only 7,118 lbs., but has virtually the same cubic capacity as the 14,700-lb. refrigerated trailer now used as the Army's standard equipment.

Internal temperature can be maintained at 10°F. while the thermometer outdoors registers 120°F. The thermostat is usually set at 10° or 35°.

According to T. F. Fletcher, Fairchild's project engineer, the 51% cut in the trailer's weight was achieved by using light-weight, high-strength aluminum alloys (alclad, the same metal used in airplane construction); by installing a lighter refrigerating unit, and by redesigning the trailer in such a way that every part contributed to its structural strength.

Insulation, a major problem in designing a refrigerated trailer, was solved by attaching an interior shell of aluminum to wood stringers and filling the void between the exterior and interior with Fiberglas. Rubbatex, a light, cork-like insulating material of synthetic rubber, was used for flooring, with additional strength provided by a top covering of corrugated aluminum sheet.

About 2,000 lbs. was eliminated by installing a 700-lb. refrigerating unit recently developed by United States Thermo Control Co. of Minneapolis. Placed in the front of the trailer, this unit forces a great volume of cold air to the rear, across the top of the cargo of food. But the engineers realized this cold air would have to be recirculated if maximum efficiency were to be obtained.

They solved the problem by attaching diagonal beads to the interior shell of aluminum from floor level to the maximum height of cargo. The beading prevents cargo from packing up tight against the walls of the refrigerator, and serves to direct the cold air forward, along the sides of the cargo. And, once forward, the cold air joins the new stream of cold air to make another round trip. Additional circulation beneath the cargo is provided by the corrugation of the flooring.

The trailer contains an emergency escape hatch which can be opened from inside—thus eliminating the hazard of being locked in.

STICK-UP JOB! . . .

Continued from page 38

that end, they are frozen. The mold assemblies are then removed from the brine cabinet, immersed in warm water to allow the frozen product to be removed, and the product is then bagged, boxed and stored in the low temperature holding room until needed.

Refrigerated storage space consists of a hardening room, approximately 10 x 12 feet in size, insulated with 8 inches of corkboard, and an anteroom adjacent, of approximately 5 x 10 feet, insulated with 4 inches of corkboard.

Holding Room Equipment

The holding room itself is equipped with two blower-type cooling units using a water defrosting arrangement to defrost the coils when necessary. The water defrosting system is connected to either hot or cold water line, and defrosting is accomplished simply by closing off the liquid line valve to the blower units, and opening a water valve. The whole defrosting operation requires only about 3 minutes, with a temperature rise of from 1 to 2° in the cooler itself, it is claimed.

Temperature inside the holding room is maintained at about –10° F., but the system has sufficient capacity to bring the enclosure down to as low as –20° F., if necessary. The blowers are connected to a single 3 H. P. water-cooled condensing unit. A warning signal is installed in the holding room, to notify the operator in the event of power failure or any other difficulty which interferes with normal operation of the refrigeration system serving the enclosure.

In the anteroom, which is maintained at 36 to 38°, as mentioned previously, a single (and smaller) blower-type cooler unit is installed. This is connected to a separate ⅓ H. P. condensing unit. Because of the temperatures maintained in this smaller enclosure, defrosting is simple and conventional methods are employed.

In the preparation of mix for the ice cream bars, a 5-gallon capacity Emery-Thompson ice cream freezer is employed; this machine is connected to another 2 H. P. water-cooled condensing unit. All the refrigerating units are located in the basement directly below the rooms in which production and storage are carried on. All of them are marked to indicate the equipment which they serve, and the machine-room arrangement enables inspection and servicing with a minimum of discomfort.

WE FREEZE 'EM, you bake 'em . . . might well be the sales slogan of the E. Gordon Male bakery in Oak Park, Ill. For Mr. Male is capitalizing on a system of producing all sorts of uncooked pies, cakes, cookies, rolls, and other "baked" goods which are packaged in the uncooked form and then stored at Frigid Dough Products Co. or shipped to frozen food dealers.

Most dough products, Mr. Male explains, must be held at low temperature in a freezing unit, but quick-frozen pies may be kept in an ordinary refrigerator for six days and cooked dough for 60 days.

Mr. Male expects his store to be the forerunner of other similar ventures throughout the country. Wholesale distribution plans are being worked out, and when sugar restrictions are lifted he plans to increase his line of ready-to-bake products to include frostings and fillings.

PROVED and APPROVED

DAVISON'S *Refrigeration Grade* SILICA GEL

Because Davison's Refrigeration Grade Silica Gel was developed especially for the dehydration of refrigerants . . . because Davison engineers worked with refrigeration engineers to help them solve the problems created by moisture . . . Davison's Refrigeration Grade Silica Gel has, for years, been *the standard* drying agent for refrigeration engineers who wanted quality . . . the most for their money. They have found out that this quality has paid extra dividends in satisfied customers.

Specify DAVISON'S Refrigeration Grade SILICA GEL from your jobber.

"DAVISON'S" Does More!

In addition to assuring maximum capacity, instantaneous action, prevention of channelling, removal of acids and corrosive compounds, freedom from caking or powdering, absolute safety . . . DAVISON'S Refrigeration Grade Silica Gel COMPLIES WITH THE REQUIREMENTS OF JOINT ARMY-NAVY SPECIFICATION JAN-D-196-GRADE A TYPE II FOR DESICCANTS (ACTIVATED)

Your Jobber stocks Davison's Refrigeration Grade Silica Gel . . . in factory-charged dehydrators and for refill.

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Progress through Chemistry

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Canadian exclusive sales agents for DAVISON'S SILICA GEL:
CANADIAN INDUSTRIES LIMITED, General Chemicals Division

WATER, EVERYWHERE . . .

Continued from page 27

others are now operating at levels far above their pre-war volume. Within 18 months the competition will be keen for every portion of this greatly expanded potential market.

It follows, therefore, that the successful companies will be those whose engineering departments keep a step ahead of the competition and whose sales departments develop the proper techniques to apply to their particuler problems. It is impossible to set any one formula for successful selling of this particular product, but many attempts are being made to determine a sound basis for such a structure.

The Market in One Town

Initial step would seem to be market research and any manufacturer will be well advised to gauge his potential share of the total on the basis of careful analysis. The setting of arbitrary figures, based on theoretical productive capacity or plucked from thin air, may well lead to trouble in over-expansion, on the one hand, or failure to secure a proper proportion of the market, on the other.

A number of such surveys have already been undertaken; some of the results are interesting. The town of Woodbury, N. J., population less than 10,000, was thoroughly canvassed with a standard questionnaire. In this town there were no less than 21 unit water coolers of both bottle and pressure types. In the five pre-war years, 1937-41, an average of 3.3 had been sold in the town, and three installations sold prior to 1934 are still in service.

One of these is 17 years old and needs replacement; the other two are between 12 and 15 years old, and only one of these owners was considering replacement. *In every other case owners were well satisfied* with their present equipment and replacement was considered only a vague possibility in the distant future. The answer to such a problem lies, of course, in improved models, with the accent on styling. At the same time, a purchaser may rightly expect 10 to 12 years of faithful service from his unit, and sales expectancies must be based on an average length of life of 10 years.

It may be safely assumed that the immediate market for replacements does not exceed 15% of all units now in service. The field for new installations is, however, most fertile. Again referring to our Woodbury survey, it was found that 70% of the town's commercial, institutional and industrial establishments had no other facility for serving drinking water than an ordinary faucet.

In many cases these outlets were not only inconveniently placed but unsanitary to a degree. Tin cups or glasses are in common use, and in only a few places are individual drinking cups provided. The installation of one water cooler at the proper location would, in several instances, pay for itself by saving the employee time lost in going back and forth to a washroom located at some distance from desks, counters or work benches.

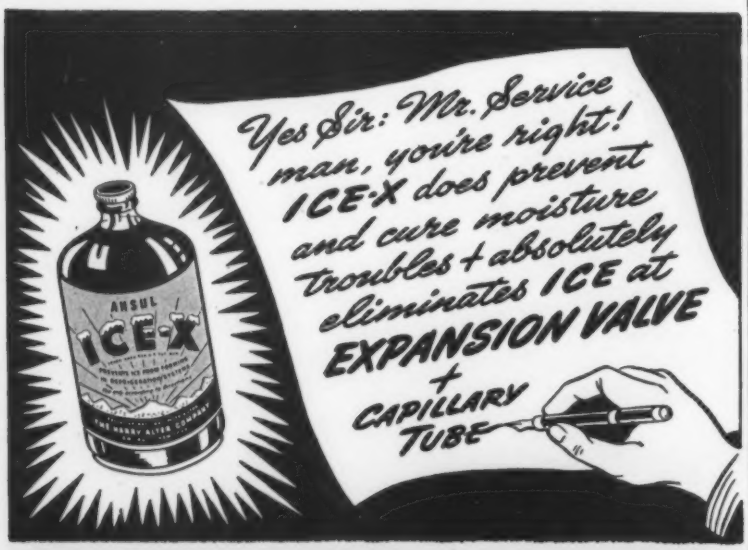
That wide acceptance of this product has been gained during recent years is indicated by the fact that almost one-half of the 70% faucet users—46 of 94—are definitely interested in the purchase of one or more units.

Year-by-Year Potentials

All of these will not buy immediately, and only strong selling will secure many of their orders, but the total potential for the first full year of post-war production may reasonably be computed at 12 units in this one town. It is believed that these will be composed of two replacements, two additional units with those now using water coolers, one self-contained unit to replace an old fashioned ice pack, and seven new installations.

From this peak, provided sufficient productive and selling capacity is immediately available, the potential in this town will drop to 10 in the second year and nine in the third. In the fourth year it should level off at about seven, which will be more than double the pre-war annual volume. It should be noted particularly that these figures do not include the tremendous potential that lies in the development of a water cooler for home use.

The responsibility for securing this potential rests with the manufacturers of this type of equipment and their supporting sales organizations. The water cooler of tomorrow must be of improved design, excellent manufacture, reasonable cost and, above all, it must be sold aggressively and intelligently.


Yes Sir: Mr. Service man, you're right! ICE-X does prevent and cure moisture troubles + absolutely eliminates ICE at EXPANSION VALVE + CAPILLARY TUBE
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JOBBERS: WRITE FOR SPECIAL PROPOSITION!

ST. LOUIS DEPT. STORE OPENS APPLIANCE ANNEX

Opening of "Appliance House", a separate building devoted solely to major appliance merchandising, has been announced by Stix-Baer-Fuller, St. Louis, Mo. department store.

if your jobber does not now have this cream in stock he will have a supply soon.

Another new product is a pipe-joint sealing compound which comes in stick form. The compound is applied by rubbing it across the threads of the joint to be sealed.

The third new product is a cork-filled tape which can be used for wrapping around pipes to stop condensation drip. This material should be especially helpful in those installations where refrigerant lines are adjacent to stored merchandise and where dripping water would be not only an annoyance to the user, but a cause of damaged products as well.

Don't Block Circulation. The cooling unit in combination with the compressor must be given as much "air" as possible; the cooling unit "breathes" in the hot air, and the compressor "exhales" the

cold air. Obviously any interference with the proper circulation of the air will overtax the cooling system. Therefore, do not place objects in air flues or on cooling units. In instances where a forced air unit is employed, care should be taken to see that the outcoming blast of air does not blow on foods that tend to dry out rapidly. (From "Refrigerator Care Pays Premiums", *Super Market Merchandising.*)

Teach Your Customers How to Defrost Properly

There's no short-cut method for defrosting retail food market equipment. You owe it to your customers (and to the manufacturer whose products your customer uses) to tell them how to do this important job right.

Does your retail market customer understand the importance of defrosting regularly? Does he realize that a coating of frost acts the same as a blanket of insulation on the cooling unit? Explain to him the importance of setting up a regular schedule for defrosting, depending on when the contents of the refrigerator can do without refrigeration for a short time.

Explain to your customer that defrosting takes time, too. Tell him why he must never use an ice pick or other sharp tool for breaking off the ice.

IN MY work I have found that in drilling a hole in porcelain or enamel, to avoid chipping put a piece of "scotch tape" over the part where the hole is to be drilled. In this way, you can drill without danger of marring or chipping the surface.

G. Matthews, L. I. City, N. Y.

Show him the routine for going about the job of defrosting, and why the various steps are necessary.

NIBCO
WROT
Copper Fittings
FOR REFRIGERATION
AND AIR CONDITIONING
THE joint is stronger than the tube when NIBCO WROT Fittings are used. Because every Fitting is perfectly formed and accurate tolerances are maintained by individual plug testing, NIBCO WROT Fittings are easier to use and save labor in production operations. They are light in weight and dense in structure . . . impervious to gases. You can eliminate service troubles by using vibration-proof and corrosion-proof NIBCO WROT Fittings.
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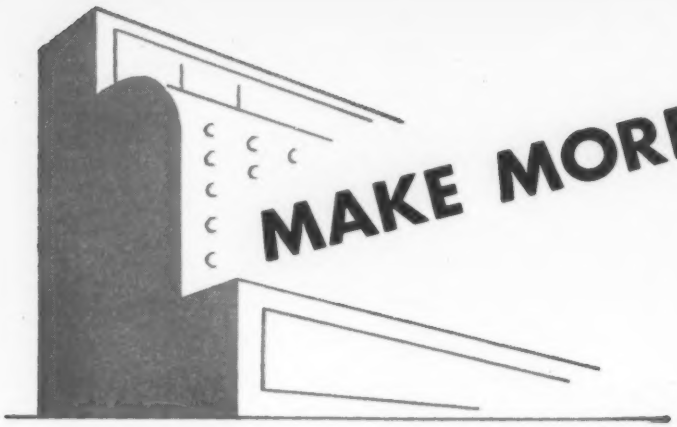
NORTHERN INDIANA BRASS CO.
ELKHART, INDIANA
VALVES AND FITTINGS SINCE 1904



MAKE MORE SALES

with the compressor oil that has these 6 advantages

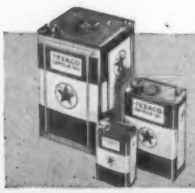
DISTRIBUTORS, dealers and service engineers know that *Texaco Capella Oil* builds increased sales and profits, customer satisfaction and repeat business. That's because it has 6 advantages:

1. *Packaging.* Famous Texaco re-sealable 1-qt., 1-gal., and 5-gal. containers — assure protection, are convenient to use, make sales-building displays.
2. *Results.* Long experience and use in all types of equipment have proved that *Texaco Capella Oil* assures smooth, trouble-free compressor operation.
3. *Quality.* Carefully selected crudes are processed by modern Texaco methods to assure freedom from moisture, and high stability. *Capella Oil* does not react with refrigerants, is strongly resistant to gumming and sludging, has exceptionally low pour test.
4. *Completeness.* With a range of six different viscosities, there are *Capella Oils* to meet manufacturers' lubrication requirements for *all* air conditioning and refrigeration units.
5. *Acceptance.* Leading manufacturers of electric refrigeration units and air conditioning equipment either use, recommend, or approve *Texaco Capella Oils.*
6. *Service.* Nation-wide facilities assure prompt delivery. Order *Texaco Capella Oil* now from the nearest of the more than 2300 Texaco distributing plants in the 48 States.

The Texas Company, 135 East 42nd Street, New York 17, N. Y.

FREE LUBRICATION GUIDE

Lists make and type of compressor and refrigerant in 55 electric refrigeration units and 32 air conditioning units. Shows which grade of Capella oil to use for each. Guide can be bound into service manual or used as wall chart. Write today for your copy.



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FOR ALL AIR CONDITIONING AND REFRIGERATION EQUIPMENT

TEXACO

TUNE IN THE TEXACO STAR THEATRE WITH JAMES MELTON SUNDAY NIGHTS ★ METROPOLITAN OPERA BROADCASTS SATURDAY AFTERNOONS

FLOWERS THAT BLOOM . . .
Continued from page 32

the plants to remain dormant until the time came for them to be sold to wholesale florists and other fanciers. Primary purpose of refrigeration, in this instance, was to prevent plant growth during the storage period.

The room in which the equipment was installed was 80 x 100 x 15 feet high, and was used as storage for a quarter of a million rose bushes. At an approximate value of $1 each, it can readily be seen that the system was being called upon to protect an investment of no little importance, money-wise.

Refrigeration equipment used for this particular system consisted of a York 25 H.P. Freon unit, with air distributed by a duct system. Temperature was maintained at 35° F. and humidity at about 85%. Exterior of the building used for storage was of concrete block construction, vapor-proofed; the structure had an earth floor. Except for sufficient insulation under the roof to overcome the effect of the sun, the structure had no other insulation.

Storage Period

Period during which the plants were to remain in storage was between about November 1 and May 15. Thus the job of the refrigeration system was to maintain the plants at a temperature above freezing, which would have caused irreparable damage to them, and at the same time prevent growth of mould which would damage their resale value.

Refrigeration equipment gave the company one safeguard it had never enjoyed previously . . . control over the "weather" at which its valuable plants were stored. Before the equipment was installed, the company simply had to take its chances with the winter climate—and more than once, a protracted warm spell in mid-winter had proved damaging to the stored plants.

As a result of its success with this original installation, Mr. O'Brien says, Jackson & Perkins installed refrigeration in the building used for storage of perennial plants. This building, 60 x 90 feet, has practically the same requirements as the original job. Temperature here is maintained at 31° F. and the system is served by a 15 H.P. Freon unit.

THE PRACTICAL Refrigeration Engineering MANUAL . . . by Harold Smith

XI. Fur Storage

PART I

THE commercial storage of furs has become a great industrial activity.

Fur, being an animal product, must be protected against the action of moths as well as from drying out in the extreme heat of summer and from mold and rot which develops under conditions of extremely high humidity. As furs range in price anywhere from low priced coats of $50 to $75 up to expensive creations made from rare furs and valued at from $500 to $6,000, it is very important that fur storage refrigeration be carefully engineered and designed. Also it is important that the construction of the cooler complies with the requirements of the insurance underwriter, as insurance companies are involved in fur storage from the standpoint of spoilage as well as from the standpoint of theft.

HEAT HURTS FURS

When furs are allowed to remain subjected to high temperatures they are constantly at the mercy of moths. The action of moths in fur is very destructive. Furs also deteriorate very rapidly due to heat itself if allowed to remain for long periods of time in high temperatures. On the other hand, cold temperature not only preserves the furs but revitalizes the natural oils in the skins, keeping them in prime condition.

While furs are usually stored only from the end of one winter to the beginning of the next, it is possible to keep furs under proper cold storage conditions for many years. There are records of furs having been stored for as long as 30 years.

Humidity also plays a very important part in the proper storing of furs, as extremely high humidity conditions running from 75 to 80 per cent relative humidity cause mold to develop and also a certain amount of rotting which quickly would ruin the fur and destroy its usefulness and value.

In designing a fur storage cooler it is usually considered advisable to carry a temperature ranging from 34 to 38° F. This temperature range keeps the development of moths and their larvae dormant and provides the proper temperature best suited for the furs.

FACTORS IN LOAD

Coolers built to carry these temperatures usually are insulated with from 4 to 6 inches of moisture proof insulation. It is usually advisable to use, when possible, 6 inches of insulation, as fur storage rooms are frequently large in area, requiring considerable refrigeration capacity, and the heavier insulation enables a smaller amount of equipment to do a satisfactory refrigeration job.

In figuring the refrigeration load on fur storage very little attention is paid to the product load of the coats, as they are usually placed in the cooler during a period of about 30 days time and once the cooler is filled there is very little movement of the product in and out of the cooler until the cooler is unloaded at the beginning of the next cold weather period. Consequently, the important load factors are heat leak, air infiltration, ventilation, electric light load, and the load occasioned by people working within the cooler.

Ventilation plays an important part in fur storage coolers and is usually installed so that the air within the cooler can be changed or partly changed from time to

SODA FOUNTAIN MAKERS MEET, ELECT OFFICERS

First annual meeting of the Soda Fountain Manufacturers Association, held in Chicago, resulted in election of an executive committee to guide the organization's activities through 1946.

This committee headed by W. D. Jordan, consists of L. G. Blessing, J. F. Kaufhold, R. Lee Smith, and W. L. Molloy.

Carl J. Palmer continues as executive secretary.

Membership of the association now includes the following manufacturers:

Bastian-Blessing Co., Chicago; Horace A. Carter, Inc., Richmond, Va.; Danforth Soda Fountain Co., Glendale, Cal.; Fischman Co., Philadelphia; Grand Rapids Cabinet Co., Grand Rapids, Mich.

Grauman Co., Denver; Robt. M. Green & Sons, Inc., Philadelphia; Haussling Soda Apparatus Mfg. Co., Newark; Holderle Bros., Inc., Rochester, N. Y.; Hygrade Soda Fountain Mfg. Corp., Brooklyn.

Stanley Knight Corp., Chicago; Liquid Carbonic Corp., Chicago; C. Nelson Mfg. Co., St. Louis; Petersen Show Case & Fixture Co., Los Angeles; Phillips Mfg. Co., Los Angeles.

M. H. Petigor, Inc., New York; Phenix Soda Fountain Co., New York; San Francisco Soda Fountain Co., San Francisco; United-American Soda Fountain Co., Watertown, Mass.; Weber Showcase & Fixture Co., Inc., Los Angeles.

BINDER CO. NAME CHANGED TO TESCO DISTRIBUTORS

Effective Jan. 1, 1946, name of the T. W. Binder Co. has been changed to Tesco Distributors. The firm remains under the exclusive ownership of Theodore and Sidney Yecies.

The company has purchased a lot 100x100 feet on which it plans to erect soon a modern structure, exclusively for its use. Tesco Distributors will handle only refrigeration and air conditioning parts and supplies, serving dealers throughout northern New Jersey.

RAUCH & MONROE START OWN JOBBER OUTLET

Jess E. Rauch and James Monroe have organized the firm of Rauch & Monroe to function as a wholesaler of refrigeration parts and supplies at 3456 Telegraph Ave., Oakland, Calif.

time when required.

There are two usual methods used in the storage of furs as a protection against destruction by action of moths. One method is to operate the storage coolers at the regular temperature throughout the entire storage period and to spray the coats with chemicals to kill moth eggs and larvae. Where this method is employed the coats are usually sprayed two or three times, several weeks apart, early during the storage period. While this method permits the use of relatively high temperature for storage at all times, the work involved in spraying the coats is considerable, there is always a certain danger of damage to the coats, and there also is the possibility that the chemicals may not reach and destroy all of the moths and larvae. In some instances, the chemicals used for this purpose are combustible and dangerous to use unless handled by experts.

"SHOCK" TREATMENT

Where it is undesirable to use the chemical spray process, the shock-killing method of moth destruction is used. For this, the refrigeration system is designed, for a standard storage temperature with provision for a very quick change to a much lower temperature for periods of 3 or 4 days once a month. This method is very successful. The temperature used for shock-killing is usually from 12 to 15° F. As the average storage temperature runs approximately 36° F., a quick reduction of temperature down to 15° F. has a very shocking effect on the moths and definitely will kill them. Most fur storage installations employ the shock-killing method, and from the refrigeration man's point of view this is to be recommended in preference to use of chemicals to protect the furs against the moth menace.

In laying out and designing an installation using shock-killing methods it is necessary to specify refrigeration equipment with capacity to handle the normal storage temperatures as well as to pull the room down to 15° F. for a short period of time. Because of the fact that temperatures are only carried at the low point for three or four days, the load requirement during these periods can be allowed to maximum capacity of the equipment if necessary. This, of course, would necessitate running the condensing unit constantly during this three or four day period. However, as soon as the temperature was returned to normal storage temperature the equipment would cycle with very satisfactory on and off operating periods.

SPECIFYING UNITS

Whereas condensing units are usually specified on a basis of 16 to 18 hours normal operation, in estimating requirements on fur storage the entire load should be figured on a basis of storage temperature plus 15° F. Condensing unit and coil equipment should be furnished having a capacity to handle the maximum load without any great safety or idle period in this operation. If this procedure is followed the idle period or off cycle of operation will be on a very satisfactory basis during normal storage periods.

It is very desirable to use forced air convection units inside fur storage rooms as the coats are hung on racks tightly together and forced circulation of air insures complete distribution of air and temperature throughout the entire storage rooms, which is not always obtained with natural gravity convection.

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and filled with
the latest developments
in
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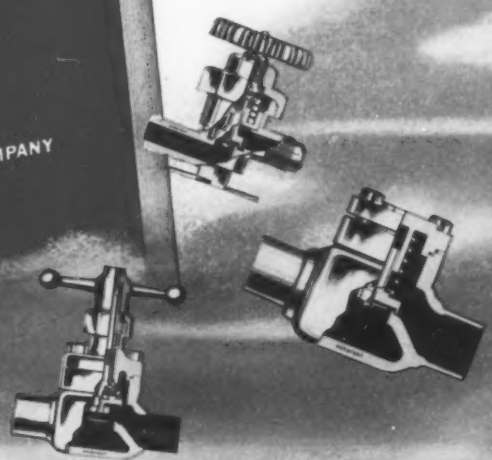

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Over the COUNTER

JIM: I'm convinced that the highly competitive post-war period we're facing will require more careful study of our overall operation and policy than we have ever attempted to make in the pre-war years.

FRANK: *I don't know just what you're driving at, but I've thought some about the same subject. Just what do you have in mind?*

JIM: To begin with, from now on competition is going to be greater than at any time we have experienced in the past. That fact means we must all be on our toes, do a lot of planning and get our organization properly lined up to be sure that we're going to get our share of the business.

FRANK: *That's my thought too, and I think the place we should begin to consider is the sales counter right here in the store.*

JIM: That's exactly the place for us to start. Our No. 1 sales effort must be directed from behind our sales counter, which means that we must have the best talent we can find to hold down this important job. They should be men who can meet our customers in a way that'll make them want to come back. They should know the angles of the customer's problems and be able to talk his language, help him overcome some of his problems and difficulties, give him suggestions and advice in regard to planning installation of new equipment, and call to his attention all new and useful products, accessories, tools, etc. that will be helpful to him in his work. Then he should make sure that the parts the customer orders are the proper parts for the work, and that the order is filled according to his request so that he'll not find out he's been given the wrong materials when he gets out on the job.

FRANK: *Jim, that just about hits the nail on the head. I feel as you do, that there's no place in our business where more good can be done than our sales counter. In all my years in the jobbing business I've*

heard more complaints that could be traced directly back to the jobber's sales counter than from anything else. If we want to keep our business growing, it's going to be up to us to make sure that our countermen are on the beam, know what our customers want, and see that they get items as they want them.

JIM: I'm beginning to believe that the quality and ability of our countermen is more important to the success of our business than even the salesman calling on the trade. After all, our countermen personally see more of our customers, and at more frequent intervals, than most of our salesmen do. Not only that, but they also handle orders that come into us by mail or over the telephone, which means that they're in contact with our customers and their requirements much more frequently than the salesman could possibly be.

FRANK: *Another angle we've got to consider is the fact that the manufacturers' representatives who call on us usually make their first contact with our countermen. Quite often the reception they receive from over our counter impresses them and reflects the kind of jobbing business we operate. I've*

SOUTHWEST JOBBERS ELECT NEW OFFICERS

New officers of the Southwest Refrigeration Equipment Wholesalers Association were elected at the organization's annual meeting at Dallas, Tex.

Burl Boykin, Jr. of Standard Brass & Mfg. Co., Beaumont, Texas was named chairman for the coming year. Other officers are: vice chairman, Alex Trevino, United Refrigeration Co., San Antonio; secretary-treasurer, R. J. McBrien, Electromotive Co., Dallas; national director, Joe Mideke, Mideke Supply Co., Oklahoma City.

Executive committee consists of: Frank J. Walter, Walter Refrigeration Supply Co., Houston, Texas; Roy O'Hale, Motor Supply Co., Monroe, La.; Sydney A. Gaines, United Electric Service, Wichita Falls, Tex.; and K. G. Wight, K & M Supply Co., Tulsa, Oklahoma.

Twenty-seven jobbers were present at the meeting, while 22 manufacturers representatives shared in the joint session. Special guests of the meeting were H. R. McCombs and H. S. McCloud of REWA.

found, over the years, that our manufacturers' salesmen can be of great help to us, and part of our job is to sell them on our ability to properly represent them and to intelligently distribute their products among the trade.

JIM: Yes, Frank, that's a very important angle which we must consider; it all ties together to produce a more successful business. Personality is a big thing in business contacts, and it'll be of even more importance as competition increases. The jobber who has the right kind of a counterman with a pleasing personality, intelligence and ability to help our customers, is going to cash in with increasing business.

FRANK: *Another important phase of the counterman's activity is to serve as a guide to our order department in selecting the proper items for stock, and the proper quantities to be carried in stock. This is important from several angles.*

First of all, an intelligent counterman will eliminate loading up with a lot of slow-moving items. Then too he will also know the items preferred and needed by the customers, the sizes that the customer will want and be most apt to use and in many ways can be a very important factor in keeping an inventory of fast-moving, desirable merchandise that customers want. Where he has a good refrigeration background, he can also frequently analyze the value of a new product and determine quickly whether or not it is something that will sell well to the trade.

JIM: He can also keep his eye on the stock and bins in filling orders and make sure that the order department is placing orders promptly to replenish stocks that are moving out rapidly. That's a double safeguard against the unfortunate experience of running out of stock on popular items, one of the best ways to drive customers from your door, if the situation develops too frequently.

FRANK: *Yes, I agree with you 100% on that. I've made up my mind that from now on the only time we'll run out of any popular moving items will be when our supplier just don't take care of our shipments; and I hope we're rapidly approaching the time when this condition will be a matter of history rather than a current problem.*

JIM: Another thing we have to do in our store is to work out plans to improve our display of merchandise. For instance, we might get new cases that are more accessible and easier to keep clean, and that will enable us to make attractive displays. Then we should plan to have the merchandise rotated and changed at frequent intervals, at least once every week or two weeks, so that we can acquaint our trade with all of our many items and lines.

We can do a great deal in that regard by making more attractive arrangements of display boards; and we can set up some of the larger items, such as condensing units, unit coolers and other types of evaporators, on tables or pedestals in the display area, so our customers will see all types of merchandise and be in a position to become more familiar with the products we sell.

Actual THERMOBANK Installation in Locker Storage Plant of 500 Locker Capacity. The contracting firm was the Refrigeration Corporation of America, 241 W. 64th Street, New York, N. Y.

THERMOBANK

by KRAMER

WITH the THERMOBANK a zero degree system is just as automatic as a 40 degree system—in fact more so.

It never needs to be defrosted because it defrosts itself automatically without the use of brine sprays, water sprays or electric heaters.

Write for Bulletin TV 345 RI

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Mills direct drive compressors

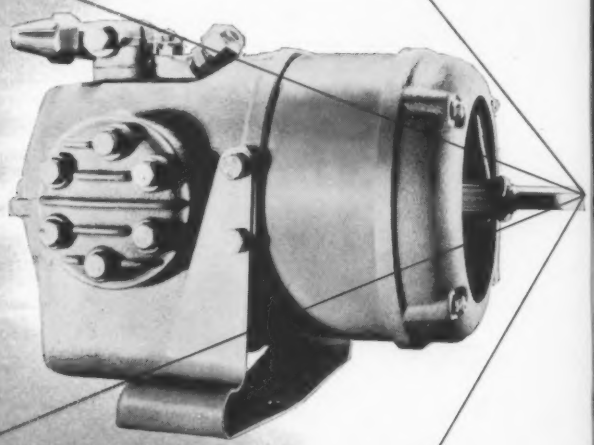
GIVE YOU FOUR IMPORTANT *advantages*

Less weight

The new Mills ⅓ H.P. Direct Drive Compressor is 37% lighter than conventional belt-driven units of the same rating.

Occupy less space

It is less than half the size of other units of equivalent power.



Easily serviced in the field

Completely and simply adjusted or repaired in the field, factory returns are eliminated.

More efficient

Saving weight and size over hermetic units, the Mills Direct Drive has all the efficiency of conventional belt-drive compressors.

MILLS *Industries, Incorporated*

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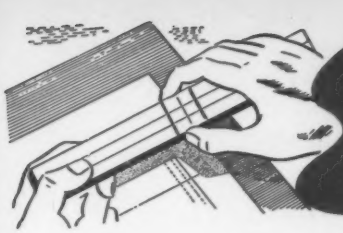


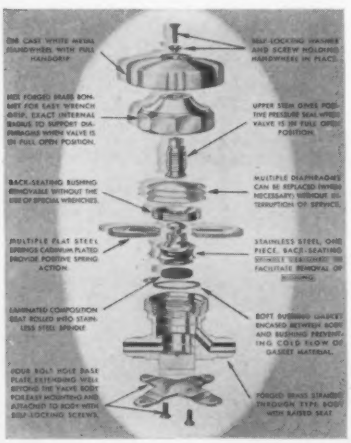
New Products

Diaphragm Packless Valve

A packless valve combining the features of small size, light weight and sturdy and simple construction has recently been designed and marketed by the Weatherhead Co., Cleveland.

The valve is designed with a minimum of parts, and is said to be leak-proof and quick-acting.

Handwheel is circular, streamlined, with a comfortable grip. Inside surface of the forged brass cap is shaped to the contour of the diaphragm, providing a smooth engagement between cap and diaphragm when the valve



is in open position. Handwheel stem is provided with a back seal against the seat in the valve cap to insure a positive seal with valve in full open position.

Forged brass valve body with connections-in-line on both the two-way and three-way valves, eliminates tube bending, reducing installation costs. An unusually large diameter diaphragm results in larger port opening with less strain on the diaphragm, and gives longer life.

The larger diaphragm permits use of a spring comprised of a multiple of Swedish spring steel leafs. In addition to its high performance, it considerably reduces the overall height of the valve, an important feature where limited space allows less mounting depth.

Newly designed hexagonal stainless steel valve head with inserted flat composition seat disc and machined recess, in conjunction with a generous port opening, allows maximum flow passage with a minimum pressure drop through the valve. Valve stem is also provided with a leak-proof seat engagement against the back seat bushing, permitting removal of the valve cap assembly and diaphragms with the valve in open position.

Leonard Household Units

New interior and exterior styling mark the new 1946 Leonard refrigerators—three 7-foot models and one 9-foot model. New features include increased beauty, greater emphasis on frozen food storage and a number of mechanical and convenience developments.

The 1946 line is topped by the new Leonard Hi-Humid refrigerator, a "three-way-cold" unit with special provisions for freezing and storage of

frozen foods, for the safe-keeping of foods of high moisture content, and for general storage of all average foods. In effect, it is a combination

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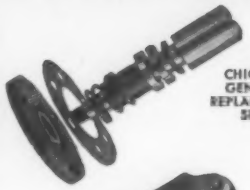
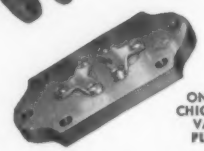


CHICAGO GENERAL REPLACEMENT SEAL



ONE OF CHICAGO'S VALVE PLATES

Chicago Seals and Valve Plates make a better servicing job on all refrigerators, in less time, at less cost, at more profit . . . and more service men and more jobbers are finding out this fact every day.

CHICAGO SEAL CO.
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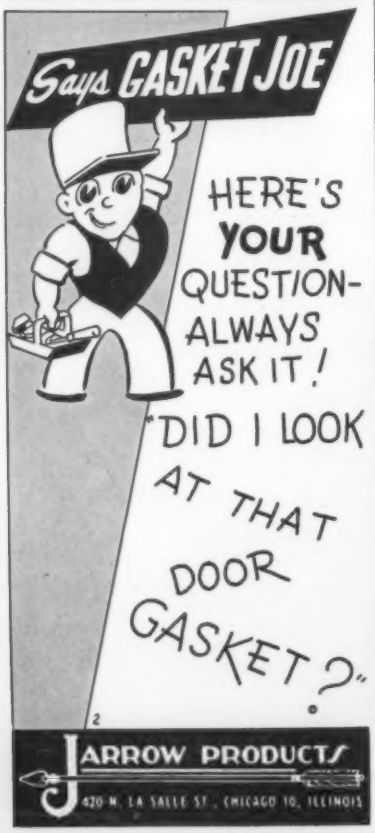

Says GASKET JOE
HERE'S YOUR QUESTION- ALWAYS ASK IT!
"DID I LOOK AT THAT DOOR GASKET?"
JARROW PRODUCTS
420 N. LA SALLE ST., CHICAGO 10, ILLINOIS

refrigerator and frozen food chest, as the new unit's freezer capacity is approximately 9 lbs. of ice cubes and 35 lbs. of packaged frozen foods. Its net capacity is 9 cu. ft. To protect high moisture foods, the Hi-Humid Freshener feature of the new unit employs a separate set of cooling coils concealed in the walls of the cabinet surrounding the freshener. Together with glass shelves which reduce moisture absorbing air circulation, these coils maintain a still super-moist condition in this compartment.

Lowest-priced Leonard for 1946 is the SL-7, which incorporates all basic engineering and construction features: The seven-cubic-foot unit with 12.2 sq. ft. of shelf area; a freezer compartment capacity of 24 lbs. of packaged frozen foods and ice cubes.

Second model is the L-7, which carries four additional new "step-up" features: the roomy vegetable crisper, a sliding meat chest with a capacity of 12 lbs., the five-way "Presto" and a 1¼ bu. vegetable bin.

Next higher in the line is the DL-7, with double crispers topped by crystal-clear glass covers, 13.1 sq. ft. of shelf area, and a freezer capacity of 30 lbs. of packaged frozen foods and ice cubes.

Combination Refrigerator-Freezer

General Tire & Rubber Co., Akron, and Liquid Carbonic Corp., Chicago, have announced the formation of "Frostor" and the coming introduction of a new combination refrigerator and freezing unit for the home.

To produce the new Frostor, a million dollar factory is under construction at Morrison, Ill. This building has been engineered specifically for the production of the new refrigerator.

Frostor offers many features unique in home refrigeration, according to Max M. Gilman, general manager. The refrigeration unit has 7½ cu. ft. of space, and the freezing unit 3½ cu. ft.

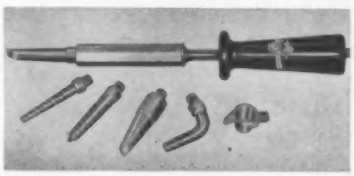
Each compartment has its own cooling unit, an innovation in home refrigerators. This practice is said to insure proper temperature throughout the box.

Normal food storage compartment is kept constant at 40°. This compartment has 14.2 sq. ft. of shelf space. Frozen food storage locker is maintained at zero. Ice-making section, located between the two compartments, is kept at sub-freezing.

Entirely encircled by chilling coils concealed in the walls, Frostor provides cold sleeve cooling which keeps air nearly 90% full of moisture, thus eliminating dehydration and keeping vegetables crisp and fresh, Mr. Gilman asserted.

Kwikheat Soldering Iron

An electric soldering iron with built-in thermostatic heat control is being marketed by Sound Equipment



Corp., Glendale, Calif., under the trade-name "Kwikheat."

The Kwikheat iron is said to eliminate the excessively high temperature acquired by the conventional electric soldering iron when in "idle" condition, a major contributing factor in soldering iron deterioration. Tips are said to last longer because they are never overheated and consequently need less retinning. The iron heats up, within 90 seconds after plugging in, through a 225 watt quick-heating element. It has a hard-chrome plated steel octagonal shell, a plastic handle, and weighs only 14 oz. Six interchangeable tip styles are available.

"Soapless" Cleaner

An all-purpose soapless cleaner that is said to suds instantly in hard, soft or sea water and effectively cleans everything from delicate hosiery and woolens to grease-caked heavy ma-

chinery has been marketed under the registered trade name of "K.P." by the K. P. Chemical Co., New York City, and will be distributed through recognized jobbers, supply houses and sales representatives.

Prepared in powdered form and packed in 50 lb. cartons and 350 lb. drums, this cleaner is said to contain no abrasive and to be entirely soluble. Working tests for more than three years have revealed, the manufacturer declares, the adaptability of "K.P." to hundreds of industries.

Dial Thermometer

New bimetallic dial thermometer made by Equipoise Controls, New York City, is said to feature permanently-calibrated, highly accurate and extremely responsive precision bi-metallic helical coil measuring element having case of alloy steel

in most sizes, 18-8 stainless steel connection nut and stem; large, easy-reading numerals and temperature graduations on metal dial; unbreakable glass crystal can be furnished.

Rugged construction is said to protect thermometer against corrosion, vibration, shock and rough handling and to insure long, dependable service. Various standard ranges are available between limits of —90° F. and 1000° F. Test or laboratory thermometers are graduated in both C. and F. on same scale.

Thermometers are obtainable in 2″, 3″ and 6″ dial sizes.

Container for Shop Use

A handy new container for a wide range of shop uses has just been announced by the Kindt-Collins Co., Cleveland. These are sturdy containers of heavy aluminum, built to stand plenty of abuse in daily shop service.

The crossbar support inside the can may be removed for cleaning. This serves both as a wiping bar for surplus material on the brush, and as a

unit upon which to hang the brush when it is not in use.

Cone-shaped top fits snugly over the can, covering both brush and contents, preventing hardening and evaporation. The container is available in one and two-quart sizes.

Two-Color Spray Gun

Two-coat spatter finishes and simulated hammered finishes giving an iridescent metal effect are said to be possible in one spraying operation through use of the new "Dimenso" spray gun announced by Sherwin-Williams Co. The guns are obtainable

MODERN
REFRIGERATOR
HARDWARE

Manufactured by
NATIONAL LOCK COMPANY
Rockford, Illinois

APPLIANCE DISTRIBUTORS

HERE is the line of frozen food cabinets you have been looking for: smart, distinctive, beautifully designed — soundly engineered . . . including a 3 cu. ft. home storage cabinet — farm freezers — and a visual display self-service retail cabinet for frozen foods and packaged ice cream . . . deliveries begin in January.

WE ARE now screening distributor applications for our client . . . a nationally prominent manufacturer who will soon announce this unusual line.

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"FLUXINE" FLUXES

are the result of fifty years of scientific research into the metal-joining field. There are 89 FLUXINE Fluxes . . . one for every welding, silver soldering, brazing, and soft soldering operation . . . each with its own properties, designed for a particular metal-joining operation. All have been perfected not only for highest efficiency, speed, and long life, but for economy and safety as well. FLUXINE Fluxes cause no injurious fumes to irritate eyes or nose of the operator.

So confident are we that wherever a metal-joining operation is required FLUXINE Fluxes will do it better, faster, and more economically than any competitive fluxes, that we will be glad to have you try it at our expense.

Write today for a generous sample and directions for using FLUXINE Fluxes on 57 different metals.

Ask your jobber . . . he knows the FLUXINE line produces the best results with the greatest economy.

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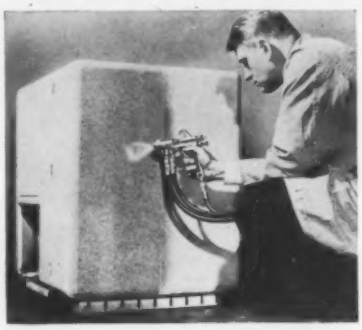
CHICAGO 10, ILL.

FLUXINE

only on lease from that company, and new patterns and enamels formulated by customers will be registered for exclusive use in their fields.

The Dimenso gun differs but slightly from ordinary spray guns in appearance or operation. It has the normal spray fan control valve and



fluid control valve, trigger assembly, head, fluid tip and needle. However, it has an additional fluid inlet near the head of the gun to accommodate the second color paint. A large number of pattern styles are obtainable with the new gun, it is claimed.

Ice Cream Freezer

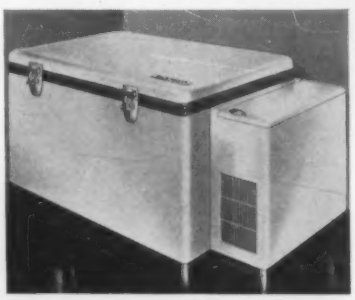
An ice cream freezer for use in refrigerator freezing compartments has been announced by Ralmac Corp., Grand Rapids, Mich.

A charged bulb inserted in the bottom of the unit after ingredients are put in applies pressure which aerates as well as mixes the ingredients. The freezer is made of heavy cast aluminum in 1 quart capacity.

Bishop Food Freezer

Production of a 16-cu. ft. capacity food freezer, with "medial octo-plane freezing" as a leading feature, has been announced by the R. H. Bishop Co., Champaign, Ill.

A chest type, single cover freezer, the unit has a capacity of 500 to 700



lbs. It offers 34⅔ sq. ft. of freezing surface by coil contact at –35°F. while storage space temperature may be maintained at –5° to –20°F.

The term, "Medial Octo-Plane Freezing," describes the location in the cabinet and type of freezing coil employed—"medial," meaning center, and "octo-plane," describing the eight flat freezing surfaces. Freezing coils are a part of the dividing partitions, and are said to be easily accessible and to eliminate possibility of vapor transfer to the insulation.

Cabinet interior is divided by four cooling coils into five compartments, three center spaces, 11″ x 26″ x 24″, and two end spaces, 6½″ x 26″ x 24″. Outside overall-dimensions are 6′ 3″ in length, 37″ wide and 36″ high.

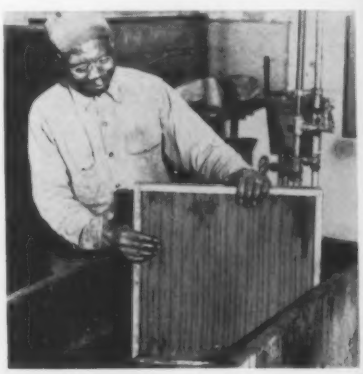
Features include plastic insulation, hermetically sealed steel cabinet, patented "cushion seal" cover and hinges, specially designed cover locks and clasps, bonderizing protection against rust, high-lustre pyroxylin finish, and built-in drain for once-a-year defrosting and cleaning.

The freezer is powered by a ⅓ H. P. compressor, and power consumption is said to average less than 90 kwh. per month.

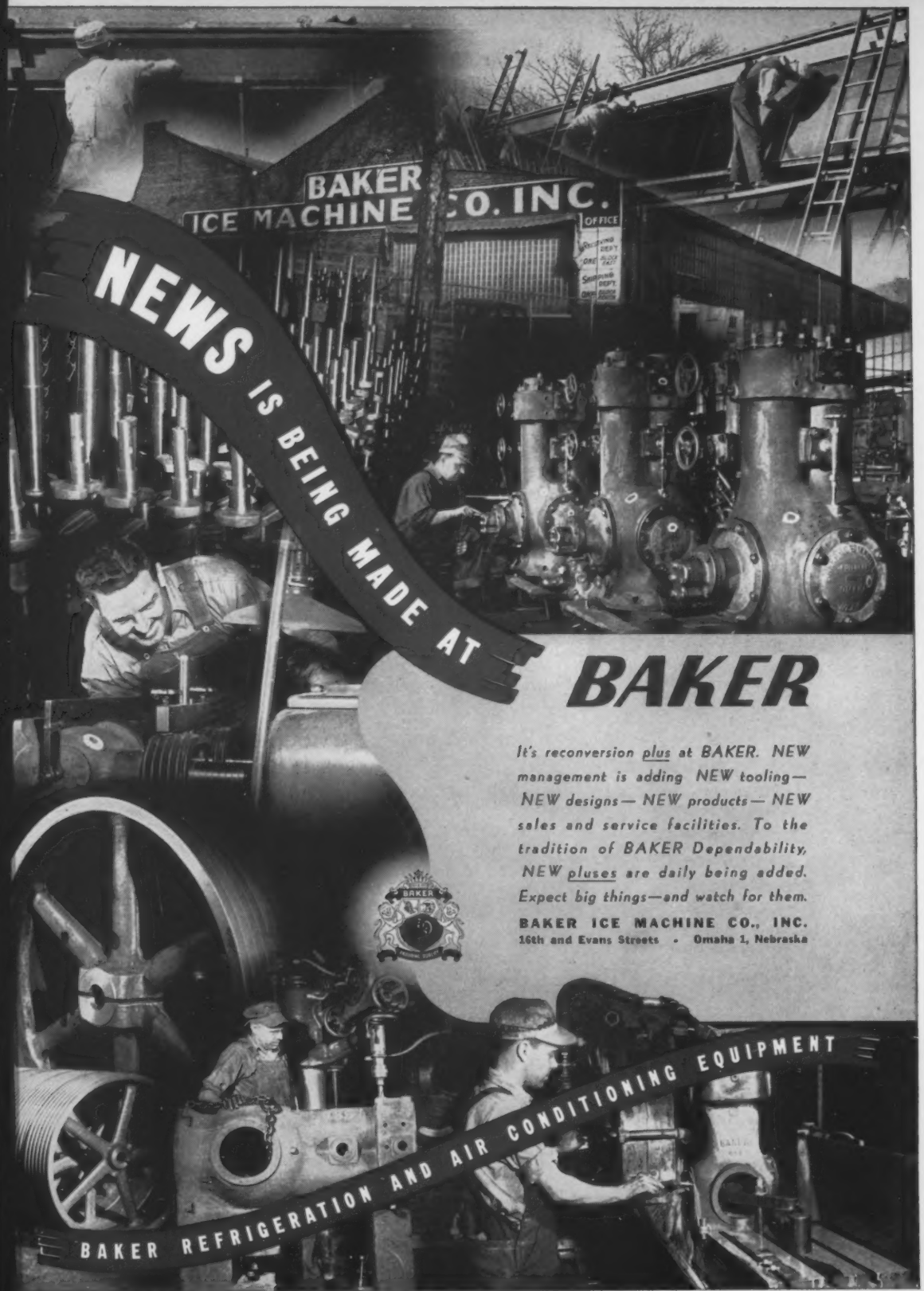
Air Filter Cleaner

A new process for the chemical cleaning of all types of air filters, including air conditioning, engine, marine and aircraft has been developed in the laboratories of Turco Products, Inc., Los Angeles.

This new process is said to elim-



inate the necessity of using distillate and other materials which leave an offensive odor and are a fire hazard, and to shorten the time required for the complete operation. Under the process, the filter is removed and immersed for six minutes in a tank of cold Turco "Aktiv," four ounces to a gallon of water. The filter is then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ICE MACHINE CO. INC.
OFFICE
NEWS IS BEING MADE AT
BAKER
It's reconversion plus at BAKER. NEW management is adding NEW tooling— NEW designs— NEW products— NEW sales and service facilities. To the tradition of BAKER Dependability, NEW pluses are daily being added. Expect big things—and watch for them.
BAKER ICE MACHINE CO., INC.
16th and Evans Streets • Omaha 1, Nebraska
BAKER REFRIGERATION AND AIR CONDITIONING EQUIPMENT

removed from the tank and given a cold water hosing to flush away dirt and grease; then dried in a stream of compressed air, and dipped into the manufacturer's specified oil. According to time-studies, the entire process takes under 13 minutes.

The manufacturer claims that there is no attack on galvanized iron, and that the clean filter is left odorless. The required equipment is simple, and no skilled labor is necessary.

Electrical Deodorizer

Automatic Electrical Devices Co., Cincinnati, has recently announced an electrical deodorizer under the trade name of "HomOzone," which is said to be suitable for use in display cases and other small areas which are to be kept odor-free. The product, which is to retail for $12.50, subject to OPA rulings, operates on alternating current only.

"Neighborhood" Locker Plant

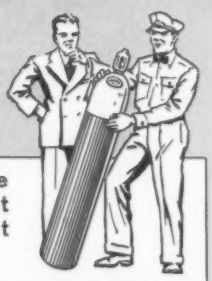
A prefabricated "neighborhood" frozen food locker plant containing 150 to 160 lockers and complete with chill room and sharp freeze facilities has been announced by Frozen Food Refrigeration Co., Memphis, Tenn.

The plant is so designed that it is adaptable to most neighborhood grocery and meat markets as it utilizes a space of only 18 by 20 feet and can be placed in the rear of most stores. The unit is designed to meet all State laws covering frozen food locker construction.

Simplicity of construction is a feature which allows the purchaser to erect the plant in a minimum length of time with little labor. Complete construction should not take over seven to 10 days.

The plant is designed to sell to dealers at approximately $4,200 f.o.b. factory, including refrigeration. Refrigeration, however, is optional, as many dealers would rather install their own equipment and have the price adjusted accordingly.

Service Engineers Should Know . . .



That the markings on the shoulder of each refrigerant cylinder reveal five important bits of information.

I. C. C. shipping container classification. This particular number (I. C. C. - 4B - 300) authorizes transportation of Sulfur Dioxide, Methyl Chloride, and certain other low pressure refrigerants.

This is the serial number which is used to identify the cylinder for all normal record purposes.

The letter in this position on the cylinder indicates the name of the company which manufactured the container.

These letters identify the registered owner of the container. (If complete identity of Nos. 3 and 4 row is ever required, write: Bureau of Explosives, 50 Vesey Street, New York, New York.)

Hydrostatic test date markings. The top symbols indicate a previous test date, the bottom symbols the last test date. Figures at the left indicate the month, the Letter "T" means "Hydrostatically tested"; figures at right, the year the tests were made. The law says cylinders be tested once every five years.

Manufacturers of "Virginia" Refrigerants and Agents for Kinetic's "Freon-12"—"Freon-22"—"Freon-11".

VIRGINIA Smelting Co.

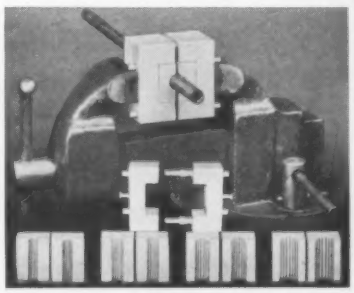
WEST NORFOLK, VIRGINIA

76 BEAVER ST., NEW YORK 5 :-: 131 STATE ST., BOSTON 4

Small Pipe Holder

A handy pipe gripping device designed to hold small pipe in any vise without crushing or marring the surface or threads has been introduced by J. A. Campbell Co., Los Angeles.

This device, known as the Nip-



Grip, permits fast handling of pipe without damage. It consists of two light alloy retainer blocks in which hardened steel inserts are slipped to hold various pipe sizes. ⅛", ¼", ⅜" and½" inserts are furnished. Springs automatically spread the blocks apart when the vise is opened. It can be positioned horizontally or vertically and is held by pins.

Food "Vault"

Vitafreez Sales Co., Memphis, Tenn. has brought out a "plantation food vault" for national distribution through distributors and dealers. The unit has a list price of $1385 f.o.b. Memphis, and is of sectional, knock-down type and may be moved if necessary. Framing of the unit is of cypress, doors of hardwood. Insulation is 4 inches of cork.

Dayton

THE MARK OF TECHNICAL EXCELLENCE IN SYNTHETIC RUBBER

FRACTIONAL HORSEPOWER BELTS

Increase Replacement Service Profits

The exclusive, patented Dayton Fractional Horsepower V-Belt will perform better and last longer on household appliance. For Daytons do not squeek, twist, vibrate or stretch. And their non-dusting, noiseless cover is a real selling feature. And, there's a Dayton for all types of household appliances and small machines. Write for catalog No. 44 today and increase your replacement service profits.

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DAYTON 1, OHIO

WRITE FOR THE CATALOG YOU NEED:
Catalog No. 44—for dealers selling replacement items.

Catalog No. 150—for designers of new equipment.

BELTS

FOR REPLACEMENT SERVICE

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OPA COMPRESSOR ADVISORY COMMITTEE MEETS

The newly appointed Compressor and Condensing Unit Industry Advisory Committee of OPA held its first meeting Dec. 6 in the Cleveland Hotel, Cleveland.

Represented were manufacturers of compressor and condensing units up to 5 H.P., used in the manufacture of industrial and commercial refrigeration units.

Compressors and condensers already are in production, with prices set on an individual firm basis. But a number of firms have not yet applied for reconversion price adjustments, and the advice of an industry committee is needed to complete the job of pricing.

Members are:

B. J. Scholl, Brunner Mfg. Co.; Frank Gleason, Copeland Refrigerator Corp.; Frank Smith, Tecumseh Products Co.; Harry Pendergast, Lynch Mfg. Co.; Sterling Smith, Baker Ice Machine Corp.; George S. Jones, Servel, Inc.; W. F. R. Karsten, General Electric Co.; H. F. Hildreth, Westinghouse Electric Co.; Harry Hedrick, Mills Industries.

"Self-Contained Mechanically Refrigerated Drinking-Water Coolers" is the name of the booklet recently published by the U.S. Commerce Department's Bureau of Standards to set forth the standards of practice voluntarily accepted by the trade to govern new production beginning six months after official announcement of the cessation of hostilities.

Copies of this standard, known as CS127-45, may be obtained by writing the Superintendent of Documents, U.S. Government Printing Office, Washington, 25, D. C. Price is 10 cents.

PETE *and* PAT . . . *The PENN-TUBE Pals*

"Better sign up, Pat—we can't do business without PENN TUBING!"

Yes, you can always *count* on PENN TUBING to help you do business. It's uniform, sparkling clean, easy to bend, ends sealed. At your jobber's in 25-, 50- and 100-ft. coils, 1/8" to 3/4" inclusive.

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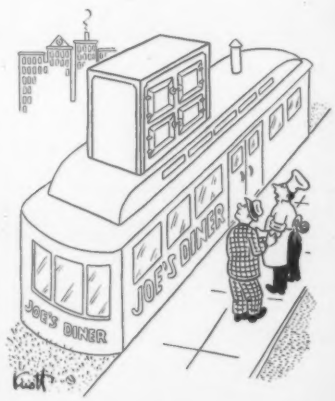
Phone 35-111 ERIE · PENNSYLVANIA
Manufacturers "SUPERIOR" BRAND SEAMLESS REFRIGERATION *Tubing*
1920 · 1945 ★ OUR 25TH ANNIVERSARY

ACRMA BROADENS SCOPE, REVISES STANDARDS

Extension of the coverage of ACRMA equipment standards, broadening of the scope of the association's statistical activities, and adoption of a public relations program basically planned to benefit all phases of the air conditioning and refrigeration industry, highlighted the fall meetings of the Air Conditioning and Refrigerating Machinery Association at Hershey, Pa.

D. W. Russell, president of the association and president of the Airtemp Division of Chrysler Corp., issued a statement which indicated that substantial progress had been made by ACRMA's product sections since the association revamped its internal organization a year ago.

Noteworthy among the new ACRMA standards are those covering Freon-12 compressor and condensing units of both open and hermetic type from 25 to 200 H. P. and open type Freon-12 condensing units, both air and water cooled, of 20 H. P. and smaller.



"He's a good refrigerator salesman, all right."

Just finished with an indoctrination course prepared by Deepfreeze division, Motor Products Corp. for the new field and factory personnel are (standing left to right in the second row): Avery C. Jones; Harold Jones, eastern region product service engineer; R. H. Fredberg, Cleveland district sales manager; C. T. Redding, central region industrial sales engineer; Thoben F. Elrod, Atlanta district sales manager; L. R. Diemand, sales department; and R. V. Newbell, advertising manager. In the front row are Margaret E. Bicknell, director of the home economics department, and F. F. Duggan, general sales manager.

NEW HONEYWELL DEPT. FOR SPECIAL CONTROLS

Formation of a specialties division to handle sales and production of special products has been announced by John E. Haines, manager of commercial control sales, Minneapolis-Honeywell Regulator Co.

Martyn Kingsland, manager of the company's refrigeration controls division, has been named sales manager of the new department, and will consolidate the activities of his former department with the new division. The new division also will handle modification of the company's regular heating and air conditioning controls for special applications.

In the immediate future, the specialties division will handle the sale of refrigeration controls, mercury switches, remote bulb thermometers, combustion controls, special control panels, special relay applications and temperature and pressure alarm systems.

LENK AGENTS NAMED FOR SOUTHWESTERN AREAS

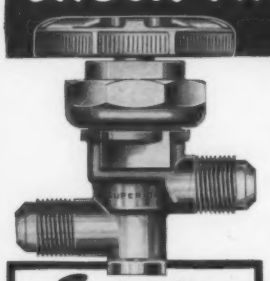
Appointment of three new representatives has been announced by M. A. Silverman, sales manager of Lenk Mfg. Co., Newton Lower Falls, Mass.

J. Cole Brewer, Dallas, will handle sales of Lenk blotorches, electric soldering irons and solders in Texas, Oklahoma, Arkansas and Louisiana; D. H. Sluman, Denver, will cover Colorado, Montana, Idaho, Utah and Wyoming; and the Sales Co., Albuquerque, N. M., will cover Arizona and New Mexico.

ONTARIO LOCKER MEN TO MEET IN MARCH

The third annual convention of the Ontario Frosted Food Locker Association will be held at the King Edward Hotel, Toronto, Canada, on March 20 and 21, 1946.

CHECK THESE FEATURES



Superior
DIAPHRAGM
PACKLESS VALVES

The only diaphragm packless valve with the internal assembly removable as one complete unit . . . a valuable feature when it comes to soldering lines to the valve connections. No need to break the diaphragm seal . . . simply remove the internal assembly *as a unit* . . . solder the connections . . . and replace the assembly. No fuss . . . no bother . . . no special tools . . . and above all, no damage to vital parts. What could be simpler!

But that's not the only important feature of these SUPERIOR DIAPHRAGM PACKLESS VALVES! Pressure responsive cup forms positive pressure-tight seal . . . permitting replacement of the diaphragm with full pressure in the valve . . . or even actual operation of the valve *without the diaphragm* . . . in an emergency.

Rugged, pleasing appearance—ease of operation—generous openings—extra long life—all these are standard features of the valve.

If you haven't a copy of Catalog R2, request one today.

No. 122

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PITTSBURGH - 26 - PENNSYLVANIA
OFFICES IN PRINCIPAL CITIES • STOCKS: CHICAGO (6) • LOS ANGELES (15) • JOBBERS EVERYWHERE

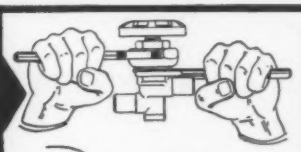

FIGURE 1—Shows wrenches properly applied to main body and auxiliary body for breaking the joint; the first step in disassembling the valve.

FIGURE 2—Observe here the entire internal assembly being removed by hand.

FIGURE 3—The entire internal assembly has been removed from the main body.

FIGURE 4—The main body, devoid of all internal parts, is now ready for cleaning and fluxing of the sweat tube connections preparatory to soldering.

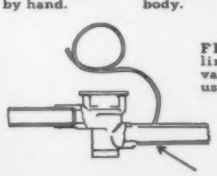

FIGURE 5—Refrigerant lines are soldered to the valve connections in the usual manner. Danger of distorting internal parts is eliminated because all these parts have been removed.

VISOLEAK

Detects leaks in refrigeration equipment before they cause damage to expensive installations and loss of costly products.

Years of use have proven *VISOLEAK* to be dependable, economical, safe and easy to use. See your refrigeration supply jobber or write for complete information.

finds hidden refrigerant leakage

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The MARKET Place

RATES: minimum, 25 words, $2.00; each additional word, 10c. Bold type or all capitals: minimum, 25 words, $3.00, additional words, 15c. All insertions are payable in advance.

HELP WANTED

REFRIGERATION SERVICE MANAGER: must have full knowledge of Commercial Refrigeration; able to supervise all types of installation and repairs; Bona fide record of experience in handling staff required. Long established Chicago concern. Give complete details. Replies will be kept confidential. Box 1146. The Refrigeration Industry.

SERVICE MANAGER with ability to organize service department and train men for organization engaged in domestic and commercial refrigeration, covering 17 Northern Ohio counties. Ample facilities to create outstanding department. State full particulars and salary requirements in first letter. Box 8453 Refrigeration Industry.

COMMERCIAL REFRIGERATION service man. Exceptional opportunity, permanent position. Hourly rate plus commission, car allowance and profit-sharing arrangement. Must have ability and experience in servicing industrial, commercial and air conditioning equipment. We are a well-established firm located in northern Ohio. Box 8452, Refrigeration Industry.

FOR SALE

For Sale. Remanufactured air and water-cooled condensing units ¼ H.P. up to 1½ H.P. Frosted Food & Ice Cream Cabinets. Edison Cooling Corp., 310 East 149th St., New York 51, N. Y.

FOR SALE—12 - 16 and 24 cubic ft. freezer cabinets. Write for list and prices. Rathbun Refrigeration Company, 1675 Lake Drive, Grand Rapids 6, Michigan.

We offer new 3 ton Copeland water cooled. Several sizes of Marlo coils new. Also several used 1 to 3 ton condensing units and one new 10 ton Marlo duct coil. H. A. Woodworth, 2651 Washington, St. Louis, Mo.

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Prime Surface

COLD PLATES

For Maximum Refrigerating Efficiency

THE STANGARD-DICKERSON CORP.

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COAST ENGINEER CONDUCTS EVENING TRAINING CLASS

J. R. Hornaday, refrigeration engineer of Interstate Aircraft & Engineering Co., El Segundo, Calif., recently conducted a 12-weeks' course of evening classes at U.C.L.A. on "Principles and Applications of Refrigeration." The course was designed to provide a background in refrigeration for personnel of companies engaged in applications of refrigeration to stationary and mobile systems, domestic and commercial.

Lectures and demonstrations covered basic principles and laws, refrigeration calculations, refrigeration cycles, ammonia valves and control mechanisms, pipe sizings, special systems and current applications, testing and maintenance, Mr. Hornaday has been a specialist in refrigeration for 19 years.

NEW CARRIER AGENCY

Carrier Corp., Syracuse, N. Y., has announced the appointment of N. W. Ayer & Son to handle the corporation's advertising. The account will be serviced by Ayer's Philadelphia office, according to Leslie M. Beals, director of advertising and sales promotion for Carrier.

LOCKER BOOM IN OHIO

Plans for erection or expansion of locker plants in 17 different Ohio communities have been completed since last September. The projected plants will range upwards in size from 300 lockers.

"FRACTIONAL TONNAGE A-P VALVES FIT LOW TEMPERATURE WORK WITHOUT HUNTING OR STARVING...!"

EXPERIENCED REFRIGERATION SERVICE

Engineers like Mr. A. L. Robertson, of the Refrigeration Maintenance Company, Madison, Wis., give full credit to "A-P Dependable" Refrigerant Valves for their special adaptation to low temperature work. They find that "A-P" fractional tonnage sizes for Freon or Methyl Chloride refrigerant applications makes it easier, as Mr. Robertson states, to fit the job without necessity of "hunting" or "starving" the line.

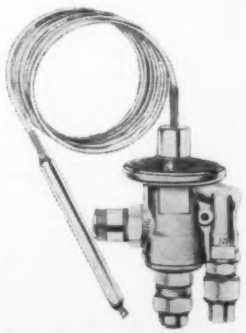
Offering a wide range of adaptability, any standard A-P Refrigerant Valve can be used on Air Conditioning, Commercial Temperature and Low Temperature work without special attachments or without changing valves. Thus one standard A-P Valve fits a variety of applications.

Write for Illustrated Bulletins covering A-P Refrigerant Valves.

REFRIGERATION MAINTENANCE CO.
PHONE FAIRCHILD 7306
731 UNIVERSITY AVENUE
MADISON 5, WISCONSIN

We use and like A-P Valves especially on low temperature work. We like the fractional tonnage sizes because we can better fit the job without hunting or starving.

Yours very truly,
Archie
A. L. Robertson



A-P Model 205 Thermostatic Expansion Valve. Capacity, up to 1 ton Freon.

AUTOMATIC PRODUCTS COMPANY
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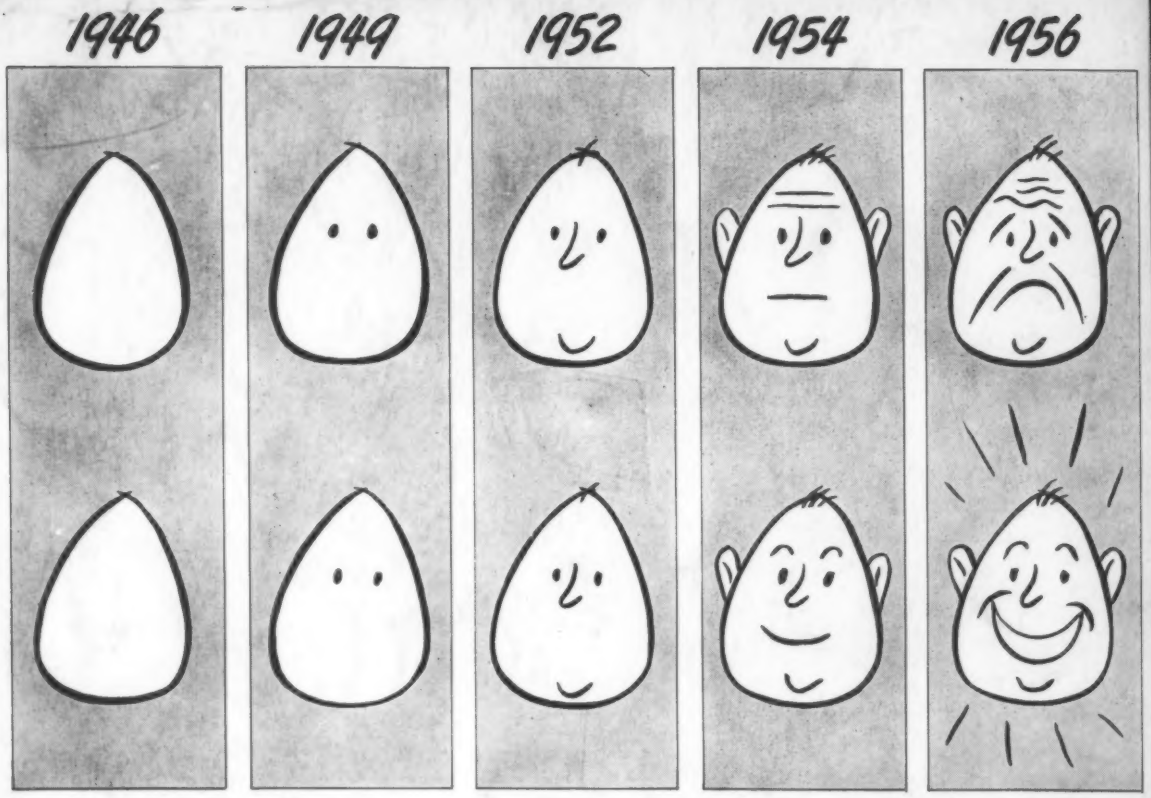
DEPENDABLE *Refrigerant Valves*

Stocked and Sold by Good Refrigeration Jobbers Everywhere — Recommended and Installed by Leading Refrigeration Service Engineers



Two ways your face can grow in the next few years

USUALLY, our faces show what's happening to us. For instance, suppose financial matters are constantly on your mind.

Suppose you know that there's practically no cash reserve between you and trouble.

It would be surprising if your face didn't show it.

But suppose that, on the contrary, you've managed to get yourself on a pretty sound financial basis.

Suppose that you're putting aside part of everything you earn . . . that those dollars you save are busy earning *extra* dollars for you . . . that you have a nest egg and an emergency fund.

Naturally, your face will show *that*, too.

There's a simple and pretty accurate way to tell which way your face is going to go in the next few years:

If you are buying, regularly, and holding as many U. S. Savings Bonds as you can, you needn't worry.

Your face will be among the ones that wear a smile.

Buy all the Bonds you can... keep all the Bonds you buy

THE REFRIGERATION INDUSTRY

This is an official U. S. Treasury advertisement—prepared under auspices of Treasury Department and War Advertising Council